



September 12, 2023

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 351
Incident Number NAPP2302034681
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA 351 (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 NAPP2302034681.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 26, Township 17 South, Range 32 East, in Lea County, New Mexico (32.80821° N, -103.73417° W) and is associated with oil and gas exploration and production operations on State Land managed by the New Mexico State Land Office (NMSLO).

On January 2, 2023, corrosion of a surface steel flow line resulted in the release of approximately 1.33 barrels (bbls) of crude oil and 7.81 bbls of produced water onto the surrounding pasture. No released fluids were recovered; however, a scrape of the saturated soil was completed during the initial spill response activities. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on January 16, 2023. The release was assigned Incident Number NAPP2302034681.

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 desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. 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 northwest of the Site on March 23, 2020. The borehole was drilled during remediation activities

associated with Incident Number NJXK1621825385 (closure was approved by NMOCD on October 26, 2022). The borehole was advanced to a depth of 60 bgs via air rotary drilling rig, and no groundwater was encountered. The boring log is included in Appendix A. The location of the 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

On March 17, 2023, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. An initial scrape of the saturated soil had been completed during spill response activities. Ensolum collected four assessment soil samples (SS01 through SS04) around the visible release extent at a depth of 0.5 feet bgs to confirm the lateral extent of 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 Eurofins 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 300.0.

Laboratory analytical results for assessment soil samples SS01 through SS04, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and defined the lateral extent of the release.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between August 3, 2023 and August 10, 2023, Ensolum personnel were at the Site to oversee excavation of impacted soil resulting from the January 2, 2023 release. 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 utilizing a 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 FS13, and FS11A were collected from the floor of the excavation at depths ranging from 4 feet to 6 feet bgs. Composite soil samples SW01 through SW09, and SW03A were collected from the sidewalls of the excavation at depths ranging from the ground surface to 5 feet bgs.

One pothole (PH01) was advanced within the open excavation to a depth of 11 feet bgs. Soil from the pothole was field screened at 1-foot intervals for VOCs and chloride. Final depth of the pothole was determined by field screening results indicating compliance with the most stringent Table I Closure Criteria. Field screening results and observations for the pothole were logged on a lithologic soil sampling log, which is included in Appendix C. Based on the field screening results, discrete delineation soil samples PH01B and PH01F, collected at depths of 7 feet and 11 feet bgs, were selected for laboratory analysis. 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. The excavation extent and soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3.

Laboratory analytical results for excavation floor samples FS01 through FS10, FS11A, FS12, FS13 and excavation sidewall samples SW01, SW02, SW03A, and SW04 through SW09, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements for samples collected from the top four feet. Laboratory analytical results for excavation samples FS11 and SW03 initially exceeded the reclamation requirement for TPH or chloride; additional soil was removed from these areas and subsequent sidewall samples FS11A and SW03A were compliant.

Laboratory analytical results for pothole delineation samples PH01B and PH01F indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, delineation sample PH01F, collected at 11 feet bgs, was compliant with the most stringent Table I Closure Criteria and provided vertical delineation of the release. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix D.

The excavation measured approximately 2,600 square feet in areal extent. A total of approximately 780 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.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the January 2, 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



Maverick Permian, LLC
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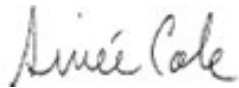
Page 4

Closure Criteria and reclamation requirements, where applicable. Additionally, the release was laterally and vertically delineated to below the most stringent Table I Closure Criteria. Based on the laboratory analytical results, no further remediation is required. Maverick backfilled the excavation with material purchased locally and recontoured the Site to match pre-existing conditions.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 60 feet bgs within 0.5 miles of 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 NAPP2302034681. NMOCD notifications are included in Appendix E and the final Form C-141 is included in Appendix F. A reclamation plan for NMSLO review is included as Appendix G.

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

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist

cc: Bryce Wagoner, Maverick Natural Resources
New Mexico State Land Office

Appendices:

Figure 1	Site Receptor Map
Figure 2	Assessment Soil Sample Locations
Figure 3	Excavation and Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic/Soil Sampling Log
Appendix D	Laboratory Analytical Reports & Chain of Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Final C-141
Appendix G	NMSLO Reclamation Plan



FIGURES

Site Receptor Map

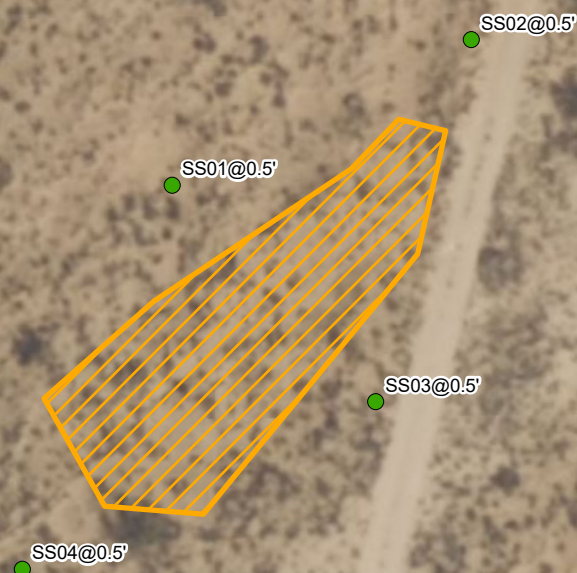
Maverick Permian, LLC
MCA 351
 Incident Number: NAPP2302034681
 Unit G, Sec 26, T17S, 32E
 Lea County, New Mexico

FIGURE

1

Legend

- Assessment Soil Sample
in Compliance with
Closure Criteria
- Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 25 50 100
Feet

Sources: Environmental Systems Research Institute (ESRI)



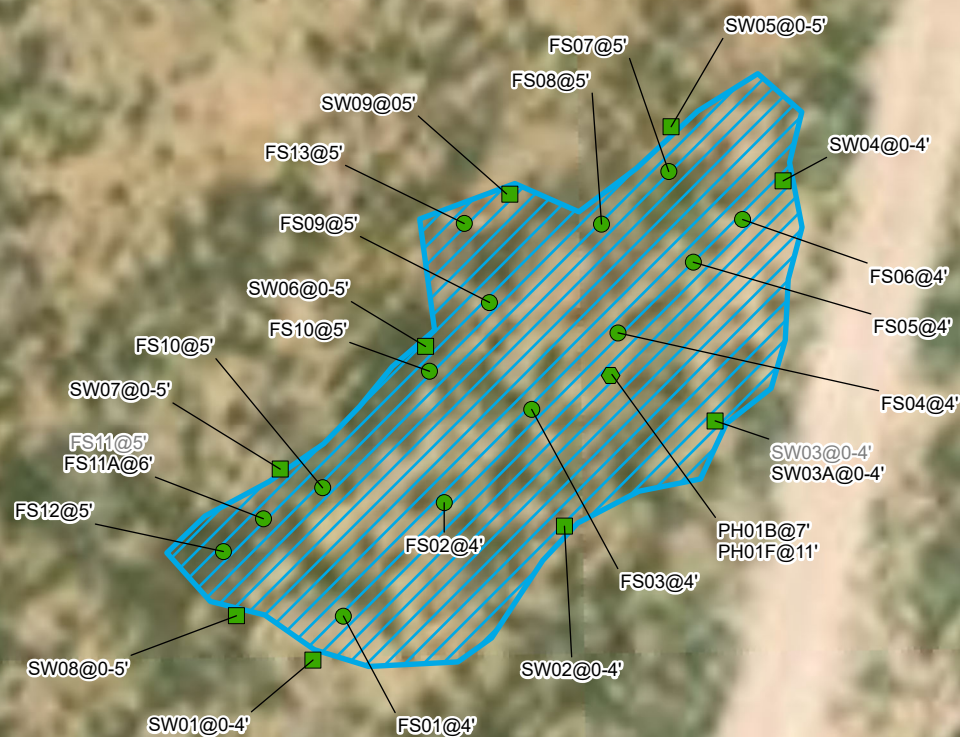
Assessment Soil Sample Locations

Maverick Permian, LLC
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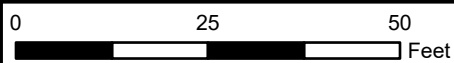
FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- ◆ Delineation Sample in Compliance with Closure Criteria
- ▨ Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



Excavation and Delineation Soil Sample Locations

Maverick Permian, LLC
MCA 351
Incident Number: NAPP2302034681
Unit G, Sec 26, T17S, 32E
Lea County, New Mexico

**FIGURE
3**



TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 351
Maverick Permian, LLC
Lea County, New Mexico

Sample Designation	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 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01	8/18/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS02	3/17/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	51.1
SS03	3/17/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	71.8
SS04	3/17/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	77.3
Excavation Floor Soil Samples										
FS01	8/3/2023	4	<0.050	<0.300	<10.0	11.0	<10.0	11.0	11.0	32.0
FS02	8/3/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,360
FS03	8/3/2023	4	<0.050	<0.300	<10.0	116	22.9	116	138.9	1,180
FS04	8/3/2023	4	<0.050	<0.300	<10.0	107	41.4	107	148.4	1,200
FS05	8/3/2023	4	<0.050	<0.300	<10.0	469	124	469	593	656
FS06	8/3/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS07	8/3/2023	5	<0.050	<0.300	<10.0	130	35.6	130	165.6	208
FS08	8/3/2023	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS09	8/3/2023	5	<0.050	<0.300	<10.0	17.3	<10.0	17.3	17.3	5,440
FS10	8/3/2023	5	<0.050	<0.300	<10.0	181	44.9	181	225.9	4,800
FS11	8/3/2023	5	<0.050	<0.300	<10.0	503	151	503	654	10,000
FS11A	8/10/2023	6	<0.050	<0.300	<10.0	369	75.1	369	444	448
FS12	8/3/2023	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	912
FS13	8/3/2023	5	<0.050	<0.300	<10.0	95.0	29.1	95.0	124.1	1,200

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
MCA 351
Maverick Permian, LLC
Lea County, New Mexico

Sample Designation	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 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Excavation Sidewall Soil Samples										
SW01*	8/3/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02*	8/3/2023	0-4	<0.050	<0.300	<10.0	21.4	<10.0	21.4	21.4	64.0
SW03*	8/3/2023	0-4	<0.050	<0.300	<10.0	194	44	194	238	16.0
SW03A*	8/10/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW04*	8/3/2023	0-4	<0.050	<0.300	<10.0	25.5	<10.0	25.5	25.5	32.0
SW05*	8/3/2023	0-5	<0.050	<0.300	<10.0	17.2	<10.0	17.2	17.2	32.0
SW06*	8/3/2023	0-5	<0.050	<0.300	<10.0	25.7	<10.0	25.7	25.7	16.0
SW07*	8/3/2023	0-5	<0.050	<0.300	<10.0	14.3	<10.0	14.3	14.3	16.0
SW08*	8/3/2023	0-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW09*	8/3/2023	0-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Delineation Soil Samples										
PH01B	8/10/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,120
PH01F	8/10/2023	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

TPH: Total Petroleum Hydrocarbon

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.**Grey** text represents samples that have been excavated

* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.



APPENDIX A

Referenced Well Records

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 <input checked="" type="checkbox"/> DRY ft Upon Completion of Drilling <input checked="" type="checkbox"/> DRY ft Remarks:																												
MATERIAL DESCRIPTION															DEPTH (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	MINUS NO. 200 (%)	GRAPHIC LOG																	
			ExStik	PID				LL	PI																			
5	X	X	208	1.6							X	-SM- SILTY SAND; Brown, dense, dry, with no odor, with no staining.																
361	X	X	1.7								X	BH-4 (2'-3')																
657	X	X	1.9								X	BH-4 (3'-4')																
2.0	X	X	2.1								X	-SM- SILTY SAND; Tan, dense, dry, with no odor, with no staining.																
2.03	X	X	1.9								X	BH-4 (4'-5')																
10	X	X	1.95	2							X	BH-4 (6'-7')																
15	X	X	9.45	3.1							X	BH-4 (9'-10')																
20	X	X	3.75	3.2							X	BH-4 (14'-15')																
25	X	X	2.81	1.4							X	BH-4 (19'-20')																
24'-25'	X	X	2.81	1.4							X	BH-4 (24'-25')																

Sampler Types:

☒ Split Spoon
☒ Shelby
☒ Bulk Sample
☒ Grab Sample

☒ Acetate Liner
☒ Vane Shear
☒ California
☒ Test Pit

Operation Types:

☒ Mud Rotary
☒ Continuous Flight Auger
☒ Wash Rotary

☒ Hand Auger
☒ Air Rotary
☒ Direct Push
☒ Core Barrel

Notes:

Analytical samples are shown in the "Remarks" column.
 Surface elevation is an estimated value.

Logger: Devin Dominguez

Drilling Equipment: Air Rotary

Driller: Scarborough Drilling

212C-MD-02067		TETRA TECH		LOG OF BORING BH-4				Page 2 of 3																																																																																																
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<table><thead><tr><th rowspan="2">DEPTH (ft)</th><th rowspan="2">OPERATION TYPE</th><th rowspan="2">SAMPLE</th><th>CHLORIDE FIELD SCREENING (ppm)</th><th>VOC FIELD SCREENING (ppm)</th><th rowspan="2">SAMPLE RECOVERY (%)</th><th rowspan="2">MOISTURE CONTENT (%)</th><th rowspan="2">DRY DENSITY (pcf)</th><th>LIQUID LIMIT</th><th>PLASTICITY INDEX</th><th rowspan="2">MINUS NO. 200 (%)</th><th rowspan="2">GRAPHIC LOG</th><th rowspan="2">MATERIAL DESCRIPTION</th><th rowspan="2">DEPTH (ft)</th><th rowspan="2">REMARKS</th></tr><tr><th>ExStik</th><th>PID</th><th>LL</th><th>PI</th></tr></thead><tbody><tr><td>30</td><td></td><td></td><td>1.87</td><td>1.7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="3"><div>-SM- SILTY SAND; Tan, dense, dry, with no odor, with no staining.</div></td><td>29</td><td>BH-4 (29'-30')</td></tr><tr><td>35</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>BH-4 (34'-35')</td></tr><tr><td>40</td><td></td><td></td><td>1.67</td><td>1.8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="2"><div>-CL- CLAYSTONE; Red, moderately hard, moist, with no odor, with no staining.</div></td><td>39</td><td>BH-4 (39'-40')</td></tr><tr><td>45</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>50</td><td></td><td></td><td>587</td><td>1.7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>BH-4 (49'-50')</td></tr></tbody></table>										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	ExStik	PID	LL	PI	30			1.87	1.7								<div>-SM- SILTY SAND; Tan, dense, dry, with no odor, with no staining.</div>	29	BH-4 (29'-30')	35														BH-4 (34'-35')	40			1.67	1.8								<div>-CL- CLAYSTONE; Red, moderately hard, moist, with no odor, with no staining.</div>	39	BH-4 (39'-40')	45															50			587	1.7											BH-4 (49'-50')
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																																																																															
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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 <u>▽</u> DRY ft Upon Completion of Drilling <u>▽</u> DRY ft Remarks:						
			ExStik	PID				LL	PI			MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS				
55																		
60			491	1.4											60	BH-4 (59'-60')		
Bottom of borehole at 60.0 feet.																		
Sampler Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> Split Spoon Shelby Bulk Sample Grab Sample </div> <div style="width: 50%;"> Acetate Liner Vane Shear California Test Pit </div> </div>			Operation Types: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> Mud Rotary Continuous Flight Auger Wash Rotary </div> <div style="width: 50%;"> Hand Auger Air Rotary Direct Push Core Barrel </div> </div>			Notes: Analytical samples are shown in the "Remarks" column. Surface elevation is an estimated value.												
Logger: Devin Dominguez					Drilling Equipment: Air Rotary					Driller: Scarborough Drilling								



APPENDIX B

Photographic Log



Photographic Log
Maverick Permian, LLC
MCA 351
NAPP2302034681



Photograph 1

Date: 1/2/2023

Description: Initial release

View: North



Photograph 2

Date: 1/3/2023

Description: Release area after initial surface scrape



Photograph 3

Date: 8/2/2023

Description: Excavation activities

View: Northwest



Photograph 4

Date: 8/3/2023


Description: Completed excavation

View: South



APPENDIX C

Lithologic Soil Sampling Logs

						Sample Name: PH01		Date: 8/10/23	
						Site Name: MCA 351			
						Incident Number: NAPP2302034681			
						Job Number: 03D2057065			
LITHOLOGIC / SOIL SAMPLING LOG						Logged By: Ronni Hayes		Method: Trackhoe	
Coordinates: 32.8081465, -103.7342604						Hole Diameter: ~3'		Total Depth: 11 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. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
						0		Excavation	
						1			
						2			
						3			
						4			
D	2,441.6	3.8	N	PH01A	6	6	SP	SAND, poorly graded gravel with sand, abundant limestone gravel, white-tan color, strong odor	
D	2,811.2	4.5	N	PH01B	7	7	SP	SAA	
D	1,204	2.2	N	PH01C	8	8	SP	SAA, slight odor	
D	1,114.4	0.3	N	PH01D	9	9	SP	SAND, poorly graded gravel with sand, abundant limestone gravel, white color, no odor	
D	806	0.4	N	PH01E	10	10	SP	SAA	
D	397.6	0.1	N	PH01F	11	11	SP	SAA	
							TD at 11 ft bgs		



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 4/3/2023 1:48:06 PM

JOB DESCRIPTION

Maverick MCA 351
SDG NUMBER Lea County NM

JOB NUMBER

890-4358-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
4/3/2023 1:48:06 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: Maverick MCA 351

Laboratory Job ID: 890-4358-1
SDG: Lea County NM

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Definitions/Glossary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Job ID: 890-4358-1

Laboratory: Eurofins Carlsbad

Narrative	
Job Narrative 890-4358-1	

Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS02 (890-4358-1).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-49613 and analytical batch 880-49785 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4352-A-1-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS02 (890-4358-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Client Sample ID: SS02

Lab Sample ID: 890-4358-1

Date Collected: 03/17/23 11:50

Matrix: Solid

Date Received: 03/20/23 09:01

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/27/23 11:12	03/29/23 19:31	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/27/23 11:12	03/29/23 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	03/27/23 11:12	03/29/23 19:31	1
1,4-Difluorobenzene (Surr)	78		70 - 130	03/27/23 11:12	03/29/23 19:31	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/30/23 13:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/27/23 11:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/24/23 16:46	03/26/23 19:07	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/24/23 16:46	03/26/23 19:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/24/23 16:46	03/26/23 19:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	170	S1+	70 - 130	03/24/23 16:46	03/26/23 19:07	1
o-Terphenyl	162	S1+	70 - 130	03/24/23 16:46	03/26/23 19:07	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	51.1		5.00	mg/Kg			04/01/23 00:16	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4344-A-1-B MS	Matrix Spike	88	118
890-4344-A-1-C MSD	Matrix Spike Duplicate	106	105
890-4358-1	SS02	102	78
LCS 880-49613/1-A	Lab Control Sample	106	108
LCSD 880-49613/2-A	Lab Control Sample Dup	102	113
MB 880-49613/5-A	Method Blank	74	82
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4352-A-1-B MS	Matrix Spike	79	76
890-4358-1	SS02	170 S1+	162 S1+
LCS 880-49456/2-A	Lab Control Sample	77	83
LCSD 880-49456/3-A	Lab Control Sample Dup	76	85
MB 880-49456/1-A	Method Blank	107	111
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49613/5-A

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49613

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/27/23 11:12	03/29/23 11:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/27/23 11:12	03/29/23 11:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	03/27/23 11:12	03/29/23 11:58	1
1,4-Difluorobenzene (Surr)	82		70 - 130	03/27/23 11:12	03/29/23 11:58	1

Lab Sample ID: LCS 880-49613/1-A

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49613

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1046		mg/Kg		105	70 - 130
Toluene	0.100	0.09913		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.09684		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.2063		mg/Kg		103	70 - 130
o-Xylene	0.100	0.1040		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: LCSD 880-49613/2-A

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49613

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1045		mg/Kg		105	70 - 130	0	35
Toluene	0.100	0.08648		mg/Kg		86	70 - 130	14	35
Ethylbenzene	0.100	0.07737		mg/Kg		77	70 - 130	22	35
m-Xylene & p-Xylene	0.200	0.1550		mg/Kg		77	70 - 130	28	35
o-Xylene	0.100	0.07896		mg/Kg		79	70 - 130	27	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: 890-4344-A-1-B MS

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0998	0.09065		mg/Kg		91	70 - 130
Toluene	<0.00199	U F1	0.0998	0.06630	F1	mg/Kg		66	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

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

Lab Sample ID: 890-4344-A-1-B MS

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49613

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U F1 F2	0.0998	0.05617	F1	mg/Kg		56	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.200	0.1087	F1	mg/Kg		54	70 - 130
o-Xylene	<0.00199	U F1 F2	0.0998	0.05628	F1	mg/Kg		56	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: 890-4344-A-1-C MSD

Matrix: Solid

Analysis Batch: 49785

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49613

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.09456		mg/Kg		96	70 - 130	4	35
Toluene	<0.00199	U F1	0.0990	0.08943		mg/Kg		90	70 - 130	30	35
Ethylbenzene	<0.00199	U F1 F2	0.0990	0.08761	F2	mg/Kg		88	70 - 130	44	35
m-Xylene & p-Xylene	<0.00398	U F1 F2	0.198	0.1814	F2	mg/Kg		92	70 - 130	50	35
o-Xylene	<0.00199	U F1 F2	0.0990	0.09115	F2	mg/Kg		92	70 - 130	47	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	105		70 - 130

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

Lab Sample ID: MB 880-49456/1-A

Matrix: Solid

Analysis Batch: 49514

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49456

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:46	03/26/23 08:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	03/24/23 16:46	03/26/23 08:27	1
o-Terphenyl	111		70 - 130	03/24/23 16:46	03/26/23 08:27	1

Lab Sample ID: LCS 880-49456/2-A

Matrix: Solid

Analysis Batch: 49514

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	882.5		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	790.5		mg/Kg		79	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-49456/2-A

Matrix: Solid

Analysis Batch: 49514

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49456

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: LCSD 880-49456/3-A

Matrix: Solid

Analysis Batch: 49514

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49456

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	935.9		mg/Kg		94	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	802.7		mg/Kg		80	70 - 130	2	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	76		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-4352-A-1-B MS

Matrix: Solid

Analysis Batch: 49514

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49456

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	831.5		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	797.6		mg/Kg		80	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	79		70 - 130
o-Terphenyl	76		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49881/1-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/31/23 22:20	1

Lab Sample ID: LCS 880-49881/2-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.2		mg/Kg		105	90 - 110

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-49881/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50038											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	263.2		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-4352-A-11-D MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50038											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110		

Lab Sample ID: 890-4352-A-11-E MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50038											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

GC VOA

Prep Batch: 49613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	5035	
MB 880-49613/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49613/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49613/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4344-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-4344-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8021B	49613
MB 880-49613/5-A	Method Blank	Total/NA	Solid	8021B	49613
LCS 880-49613/1-A	Lab Control Sample	Total/NA	Solid	8021B	49613
LCSD 880-49613/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49613
890-4344-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	49613
890-4344-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49613

Analysis Batch: 49949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 49456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-49456/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49456/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49456/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4352-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8015B NM	49456
MB 880-49456/1-A	Method Blank	Total/NA	Solid	8015B NM	49456
LCS 880-49456/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49456
LCSD 880-49456/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49456
890-4352-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49456

Analysis Batch: 49620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 49881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

HPLC/IC

Analysis Batch: 50038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4358-1	SS02	Soluble	Solid	300.0	49881
MB 880-49881/1-A	Method Blank	Soluble	Solid	300.0	49881
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	300.0	49881
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49881
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	49881
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49881

Lab Chronicle

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Client Sample ID: SS02
Date Collected: 03/17/23 11:50
Date Received: 03/20/23 09:01

Lab Sample ID: 890-4358-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49613	03/27/23 11:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49785	03/29/23 19:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49949	03/30/23 13:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			49620	03/27/23 11:30	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49456	03/24/23 16:46	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49514	03/26/23 19:07	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:16	SMC	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4358-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4358-1	SS02	Solid	03/17/23 11:50	03/20/23 09:01	0.5'

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- 14

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

Chain of Custody Record



Environment Testing

4/3/2023

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Released to Imaging: 1/12/2024 10:16:06 AM

[illegible]

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4358-1

SDG Number: Lea County NM

Login Number: 4358

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4358-1

SDG Number: Lea County NM

Login Number: 4358

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4360-1

SDG Number: Lea County NM

Login Number: 4360

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4360-1

SDG Number: Lea County NM

Login Number: 4360

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701
Generated 4/3/2023 1:49:23 PM

JOB DESCRIPTION

Maverick MCA 351
SDG NUMBER Lea County NM

JOB NUMBER

890-4361-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad**Job Notes**

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

Authorization

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Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: Maverick MCA 351

Laboratory Job ID: 890-4361-1
SDG: Lea County NM

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Definitions/Glossary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Job ID: 890-4361-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-4361-1
-----------	-----------------------------

Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-4361-1).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS03 (890-4361-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-26413-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Client Sample ID: SS03

Lab Sample ID: 890-4361-1

Date Collected: 03/17/23 12:00

Matrix: Solid

Date Received: 03/20/23 09:01

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/30/23 08:44	03/30/23 12:52	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/30/23 08:44	03/30/23 12:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	03/30/23 08:44	03/30/23 12:52	1
1,4-Difluorobenzene (Surr)	112		70 - 130	03/30/23 08:44	03/30/23 12:52	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/30/23 13:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/27/23 17:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 11:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130	03/24/23 16:55	03/27/23 11:29	1
o-Terphenyl	87		70 - 130	03/24/23 16:55	03/27/23 11:29	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.8		4.95	mg/Kg			04/01/23 00:30	1

Eurofins Carlsbad

Surrogate Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-26413-A-1-C MS	Matrix Spike	95	112
880-26413-A-1-D MSD	Matrix Spike Duplicate	107	103
890-4361-1	SS03	132 S1+	112
LCS 880-49806/1-A	Lab Control Sample	90	114
LCSD 880-49806/2-A	Lab Control Sample Dup	92	114
MB 880-49806/5-A	Method Blank	72	97
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4361-1	SS03	99	87
890-4361-1 MS	SS03	108	87
890-4361-1 MSD	SS03	108	87
LCS 880-49457/2-A	Lab Control Sample	93	83
LCSD 880-49457/3-A	Lab Control Sample Dup	90	81
MB 880-49457/1-A	Method Blank	120	118
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49806/5-A

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49806

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:15	03/30/23 10:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/29/23 10:15	03/30/23 10:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		70 - 130	03/29/23 10:15	03/30/23 10:47	1
1,4-Difluorobenzene (Surr)	97		70 - 130	03/29/23 10:15	03/30/23 10:47	1

Lab Sample ID: LCS 880-49806/1-A

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1279		mg/Kg		128	70 - 130
Toluene	0.100	0.1063		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.09803		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.2012		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1006		mg/Kg		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: LCSD 880-49806/2-A

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1170		mg/Kg		117	70 - 130	9	35
Toluene	0.100	0.09934		mg/Kg		99	70 - 130	7	35
Ethylbenzene	0.100	0.09051		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1833		mg/Kg		92	70 - 130	9	35
o-Xylene	0.100	0.09201		mg/Kg		92	70 - 130	9	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 880-26413-A-1-C MS

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.0998	0.1080		mg/Kg		108	70 - 130
Toluene	<0.00198	U	0.0998	0.09466		mg/Kg		95	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

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

Lab Sample ID: 880-26413-A-1-C MS

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.0998	0.08655		mg/Kg		87	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.200	0.1762		mg/Kg		88	70 - 130
o-Xylene	<0.00198	U	0.0998	0.08842		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 880-26413-A-1-D MSD

Matrix: Solid

Analysis Batch: 49916

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.1012		mg/Kg		100	70 - 130	6	35
Toluene	<0.00198	U	0.101	0.1004		mg/Kg		100	70 - 130	6	35
Ethylbenzene	<0.00198	U	0.101	0.09804		mg/Kg		97	70 - 130	12	35
m-Xylene & p-Xylene	<0.00396	U	0.202	0.2080		mg/Kg		103	70 - 130	17	35
o-Xylene	<0.00198	U	0.101	0.1049		mg/Kg		104	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-49457/1-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49457

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	03/24/23 16:55	03/27/23 08:47	1
o-Terphenyl	118		70 - 130	03/24/23 16:55	03/27/23 08:47	1

Lab Sample ID: LCS 880-49457/2-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	876.8		mg/Kg		88	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-49457/2-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49457

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: LCSD 880-49457/3-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	861.9		mg/Kg		86	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	1000	864.3		mg/Kg		86	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-4361-1 MS

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: SS03

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1038		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	721.8		mg/Kg		70	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-4361-1 MSD

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: SS03

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	87		70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49881/1-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/31/23 22:20	1

Lab Sample ID: LCS 880-49881/2-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.2		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-49881/3-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	263.2		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-4352-A-11-D MS

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110

Lab Sample ID: 890-4352-A-11-E MSD

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110	0	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

GC VOA

Prep Batch: 49806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	5035	
MB 880-49806/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49806/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49806/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-26413-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-26413-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	8021B	49806
MB 880-49806/5-A	Method Blank	Total/NA	Solid	8021B	49806
LCS 880-49806/1-A	Lab Control Sample	Total/NA	Solid	8021B	49806
LCSD 880-49806/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49806
880-26413-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	49806
880-26413-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49806

Analysis Batch: 49971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 49457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-1 MS	SS03	Total/NA	Solid	8015NM Prep	
890-4361-1 MSD	SS03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	8015B NM	49457
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457
890-4361-1 MS	SS03	Total/NA	Solid	8015B NM	49457
890-4361-1 MSD	SS03	Total/NA	Solid	8015B NM	49457

Analysis Batch: 49671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 49881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 49881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 50038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4361-1	SS03	Soluble	Solid	300.0	49881
MB 880-49881/1-A	Method Blank	Soluble	Solid	300.0	49881
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	300.0	49881
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49881
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	49881
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49881

Lab Chronicle

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Client Sample ID: SS03

Lab Sample ID: 890-4361-1

Date Collected: 03/17/23 12:00

Matrix: Solid

Date Received: 03/20/23 09:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49806	03/30/23 08:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49916	03/30/23 12:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49971	03/30/23 13:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			49671	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 11:29	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:30	SMC	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4361-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4361-1	SS03	Solid	03/17/23 12:00	03/20/23 09:01	0.5'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Chain of Custody



Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 1 of 1

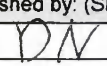
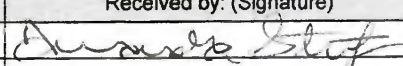
Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kiennings@ensolum.com, dnikanorov@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other:	

Project Name:		Maverick MCA 351		Turn Around		Pres. Code	ANALYSIS REQUEST												Preservative Codes					
Project Number:		03D2057065		<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush			Parameters	 890-4361 Chain of Custody												None: NO DI Water: H ₂ O				
Project Location:		Lea County, NM		Due Date:																Cool: Cool MeOH: Me				
Sampler's Name:		Dmitry Nikanorov		TAT starts the day received by the lab, if received by 4:30pm																HCL: HC HNO ₃ : HN				
PO #:																				H ₂ SO ₄ : H ₂ NaOH: Na				
SAMPLE RECEIPT		Temp Blank:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Wet Ice:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No														H ₃ PO ₄ : HP		
Samples Received Intact:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID:		TAM-02														NaHSO ₄ : NABIS				
Cooler Custody Seals:		Yes No N/A		Correction Factor:		0.2														Na ₂ S ₂ O ₃ : NaSO ₃				
Sample Custody Seals:		Yes No N/A		Temperature Reading:		2.3														Zn Acetate+NaOH: Zn				
Total Containers:				Corrected Temperature:		2.0														NaOH+Ascorbic Acid: SAPC				
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)												Sample Comments		
SS03		S	3/17/2023	12:00	0.5'	Grab	1	X	X	X														
																								

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 		3/20/23 090	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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

Chain of Custody Record



Environment Testing

4/3/2023

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Released to Imaging: 1/12/2024 10:16:06 AM

[illegible]

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4361-1

SDG Number: Lea County NM

Login Number: 4361

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4361-1

SDG Number: Lea County NM

Login Number: 4361

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

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



Environment Testing

- 1
- 2
- 3
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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
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JOB DESCRIPTION

Maverick MCA 351
SDG NUMBER Lea County NM

JOB NUMBER

890-4362-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

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Authorized for release by
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Client: Ensolum
Project/Site: Maverick MCA 351

Laboratory Job ID: 890-4362-1
SDG: Lea County NM

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Definitions/Glossary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Job ID: 890-4362-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4362-1

Receipt

The sample was received on 3/20/2023 9:01 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4362-1).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (LCSD 880-49653/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-49653 and analytical batch 880-49792 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

GC Semi VOA

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

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Client Sample ID: SS04

Lab Sample ID: 890-4362-1

Date Collected: 03/17/23 12:10

Matrix: Solid

Date Received: 03/20/23 09:01

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *- *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	1
Toluene	<0.00201	U *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	1
Ethylbenzene	<0.00201	U ** *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	1
m-Xylene & p-Xylene	<0.00402	U *- *1	0.00402	mg/Kg		03/27/23 14:59	03/29/23 18:49	1
o-Xylene	<0.00201	U ** *1	0.00201	mg/Kg		03/27/23 14:59	03/29/23 18:49	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/27/23 14:59	03/29/23 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	03/27/23 14:59	03/29/23 18:49	1
1,4-Difluorobenzene (Surr)	106		70 - 130	03/27/23 14:59	03/29/23 18:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/30/23 13:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/27/23 17:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 12:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 12:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 12:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130	03/24/23 16:55	03/27/23 12:33	1
o-Terphenyl	98		70 - 130	03/24/23 16:55	03/27/23 12:33	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.3		5.01	mg/Kg			04/01/23 00:35	1

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Surrogate Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)
Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-26164-A-1-B MS	Matrix Spike	100	112
880-26164-A-1-C MSD	Matrix Spike Duplicate	102	114
890-4362-1	SS04	97	106
LCS 880-49653/1-A	Lab Control Sample	98	111
LCSD 880-49653/2-A	Lab Control Sample Dup	40 S1-	102
MB 880-49653/5-A	Method Blank	89	101
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4361-A-1-B MS	Matrix Spike	108	87
890-4361-A-1-C MSD	Matrix Spike Duplicate	108	87
890-4362-1	SS04	102	98
LCS 880-49457/2-A	Lab Control Sample	93	83
LCSD 880-49457/3-A	Lab Control Sample Dup	90	81
MB 880-49457/1-A	Method Blank	120	118
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49653/5-A

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49653

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/27/23 14:59	03/29/23 13:26	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/27/23 14:59	03/29/23 13:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130	03/27/23 14:59	03/29/23 13:26	1
1,4-Difluorobenzene (Surr)	101		70 - 130	03/27/23 14:59	03/29/23 13:26	1

Lab Sample ID: LCS 880-49653/1-A

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1099		mg/Kg		110	70 - 130
Toluene	0.100	0.1071		mg/Kg		107	70 - 130
Ethylbenzene	0.100	0.09751		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1927		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09611		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: LCSD 880-49653/2-A

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49653

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.03864	*- *1	mg/Kg		39	70 - 130	96	35
Toluene	0.100	0.07087	*1	mg/Kg		71	70 - 130	41	35
Ethylbenzene	0.100	0.3961	*+ *1	mg/Kg		396	70 - 130	121	35
m-Xylene & p-Xylene	0.200	0.1305	*- *1	mg/Kg		65	70 - 130	39	35
o-Xylene	0.100	0.1666	*+ *1	mg/Kg		167	70 - 130	54	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	40	S1-	70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 880-26164-A-1-B MS

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *- *1	0.100	0.1054		mg/Kg		105	70 - 130
Toluene	<0.00200	U *1	0.100	0.1029		mg/Kg		102	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

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

Lab Sample ID: 880-26164-A-1-B MS

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U *+ *1	0.100	0.09252		mg/Kg		92	70 - 130
m-Xylene & p-Xylene	<0.00399	U *- *1	0.201	0.1817		mg/Kg		91	70 - 130
o-Xylene	<0.00200	U *+ *1	0.100	0.09062		mg/Kg		90	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 880-26164-A-1-C MSD

Matrix: Solid

Analysis Batch: 49792

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *- *1	0.0990	0.1097		mg/Kg		111	70 - 130	4	35
Toluene	<0.00200	U *1	0.0990	0.1072		mg/Kg		108	70 - 130	4	35
Ethylbenzene	<0.00200	U *+ *1	0.0990	0.09726		mg/Kg		98	70 - 130	5	35
m-Xylene & p-Xylene	<0.00399	U *- *1	0.198	0.1915		mg/Kg		97	70 - 130	5	35
o-Xylene	<0.00200	U *+ *1	0.0990	0.09537		mg/Kg		96	70 - 130	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

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

Lab Sample ID: MB 880-49457/1-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49457

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/24/23 16:55	03/27/23 08:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	120		70 - 130	03/24/23 16:55	03/27/23 08:47	1
o-Terphenyl	118		70 - 130	03/24/23 16:55	03/27/23 08:47	1

Lab Sample ID: LCS 880-49457/2-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1022		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	876.8		mg/Kg		88	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-49457/2-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49457

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: LCSD 880-49457/3-A

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	861.9		mg/Kg		86	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	1000	864.3		mg/Kg		86	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	81		70 - 130

Lab Sample ID: 890-4361-A-1-B MS

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1038		mg/Kg		100	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	721.8		mg/Kg		70	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: 890-4361-A-1-C MSD

Matrix: Solid

Analysis Batch: 49559

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 49457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1062		mg/Kg		102	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	727.0		mg/Kg		70	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	87		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49881/1-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/31/23 22:20	1

Lab Sample ID: LCS 880-49881/2-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	263.2		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-49881/3-A

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	263.2		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-4352-A-11-D MS

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110

Lab Sample ID: 890-4352-A-11-E MSD

Matrix: Solid

Analysis Batch: 50038

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	33.6		252	285.7		mg/Kg		100	90 - 110	0	20

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QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

GC VOA

Prep Batch: 49653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	5035	
MB 880-49653/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49653/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49653/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-26164-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-26164-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8021B	49653
MB 880-49653/5-A	Method Blank	Total/NA	Solid	8021B	49653
LCS 880-49653/1-A	Lab Control Sample	Total/NA	Solid	8021B	49653
LCSD 880-49653/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49653
880-26164-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	49653
880-26164-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49653

Analysis Batch: 49961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 49457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015B NM	49457
MB 880-49457/1-A	Method Blank	Total/NA	Solid	8015B NM	49457
LCS 880-49457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49457
LCSD 880-49457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49457
890-4361-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49457
890-4361-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49457

Analysis Batch: 49672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 49881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Soluble	Solid	DI Leach	
MB 880-49881/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 49881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 50038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4362-1	SS04	Soluble	Solid	300.0	49881
MB 880-49881/1-A	Method Blank	Soluble	Solid	300.0	49881
LCS 880-49881/2-A	Lab Control Sample	Soluble	Solid	300.0	49881
LCSD 880-49881/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49881
890-4352-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	49881
890-4352-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49881

Lab Chronicle

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Client Sample ID: SS04
Date Collected: 03/17/23 12:10
Date Received: 03/20/23 09:01

Lab Sample ID: 890-4362-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49653	03/27/23 14:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49792	03/29/23 18:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49961	03/30/23 13:32	SM	EET MID
Total/NA	Analysis	8015 NM		1			49672	03/27/23 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49457	03/24/23 16:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49559	03/27/23 12:33	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	49881	03/29/23 16:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50038	04/01/23 00:35	SMC	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Maverick MCA 351

Job ID: 890-4362-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4362-1	SS04	Solid	03/17/23 12:10	03/20/23 09:01	0.5'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Chain of Custody


Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com, dnikanorov@ensolum.com

Work Order Comments	
Program:	UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: _____

Project Name:		Turn Around		ANALYSIS REQUEST												Preservative Codes		
Project Number:	03D2057065	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush		Pres. Code													None: NO	DI Water: H ₂ O
Project Location:	Lea County, NM	Due Date:		Parameters	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	 890-4362 Chain of Custody									Cool: Cool	MeOH: Me
Sampler's Name:	Dmitry Nikanorov	TAT starts the day received by the lab, if received by 4:30pm															HCL: HC	HNO ₃ : HN
PO #:																	H ₂ SO ₄ : H ₂	NaOH: Na
SAMPLE RECEIPT		Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No															H ₃ PO ₄ : HP
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:															NaHSO ₄ : NABIS	
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Correction Factor:															Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Temperature Reading:															Zn Acetate+NaOH: Zn	
Total Containers:		Corrected Temperature:															NaOH+Ascorbic Acid: SAPC	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont											Sample Comments	
SS04	S	3/17/2023	12:10	0.5'	Grab	1	X	X	X									
<div style="position: relative; width: 100%; height: 100%;"> <div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; background: linear-gradient(to top right, transparent 49%, black 49%, black 51%, transparent 51%); background-size: 4px 4px;"></div> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-size: 2em; font-weight: bold;">DN</div> </div>																		

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>DN</i>	<i>[Signature]</i>	3/20/23 09:01	4		
3			6		
5					

Revised Date 08/25/2020 Rev. 2020.2

1211 W Florida Ave
Midland TX 79701
Phone: 432-704-5440

Chain of Custody Record



Environment Testing

4/3/2023

Page 19 of 21

Released to Imaging: 1/12/2024 10:16:06 AM

[illegible]

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4362-1

SDG Number: Lea County NM

Login Number: 4362

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4362-1

SDG Number: Lea County NM

Login Number: 4362

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 03/21/23 11:22 AM

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



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

August 03, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/02/23 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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.

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:	08/02/2023	Sampling Date:	08/02/2023
Reported:	08/03/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 01 4' (H234099-01)

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	08/03/2023	ND	1.98	99.2	2.00	0.642		
Toluene*	<0.050	0.050	08/03/2023	ND	1.90	95.2	2.00	0.971		
Ethylbenzene*	<0.050	0.050	08/03/2023	ND	1.95	97.6	2.00	1.19		
Total Xylenes*	<0.150	0.150	08/03/2023	ND	5.76	95.9	6.00	0.697		
Total BTX	<0.300	0.300	08/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	08/03/2023	ND	432	108	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	08/03/2023	ND	197	98.3	200	1.29		
DRO >C10-C28*	11.0	10.0	08/03/2023	ND	197	98.4	200	0.780		
EXT DRO >C28-C36	<10.0	10.0	08/03/2023	ND						

Surrogate: 1-Chlorooctane 137 % 48.2-134

Surrogate: 1-Chlorooctadecane 151 % 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:	08/02/2023	Sampling Date:	08/02/2023
Reported:	08/03/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 02 4' (H234099-02)

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	08/03/2023	ND	1.98	99.2	2.00	0.642		
Toluene*	<0.050	0.050	08/03/2023	ND	1.90	95.2	2.00	0.971		
Ethylbenzene*	<0.050	0.050	08/03/2023	ND	1.95	97.6	2.00	1.19		
Total Xylenes*	<0.150	0.150	08/03/2023	ND	5.76	95.9	6.00	0.697		
Total BTEX	<0.300	0.300	08/03/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	7360	16.0	08/03/2023	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	08/03/2023	ND	197	98.3	200	1.29	
DRO >C10-C28*	<10.0	10.0	08/03/2023	ND	197	98.4	200	0.780	
EXT DRO >C28-C36	<10.0	10.0	08/03/2023	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 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

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

August 07, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/03/23 16:56.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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.

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:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 03 - 4' (H234142-01)

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03	
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11	
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55	
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72	
Total BTEX	<0.300	0.300	08/05/2023	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	116	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	22.9	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 96.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 04 - 4' (H234142-02)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	1200	16.0	08/07/2023	ND	448	112	400	3.64	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/04/2023	ND	170	85.1	200	6.10		
DRO >C10-C28*	107	10.0	08/04/2023	ND	187	93.4	200	3.91		
EXT DRO >C28-C36	41.4	10.0	08/04/2023	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 05 - 4' (H234142-03)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	656	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	469	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	124	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 06 - 4' (H234142-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 07 - 5' (H234142-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	130	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	35.6	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 08 - 5' (H234142-06)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 09 - 5' (H234142-07)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	5440	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	17.3	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 10 - 5' (H234142-08)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	4800	16.0	08/07/2023	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	08/04/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	181	10.0	08/04/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	44.9	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 11 - 5' (H234142-09)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	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	10000	16.0	08/07/2023	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	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	503	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	151	10.0	08/05/2023	ND					

Surrogate: 1-Chlorooctane 96.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 12 - 5' (H234142-10)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	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	912	16.0	08/07/2023	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	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/05/2023	ND					

Surrogate: 1-Chlorooctane 98.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: FS 13 - 5' (H234142-11)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	1200	16.0	08/07/2023	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	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	95.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	29.1	10.0	08/05/2023	ND					

Surrogate: 1-Chlorooctane 75.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.3 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 01 - 0-4' (H234142-12)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/07/2023	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	08/05/2023	ND	170	85.1	200	6.10	
DRO >C10-C28*	<10.0	10.0	08/05/2023	ND	187	93.4	200	3.91	
EXT DRO >C28-C36	<10.0	10.0	08/05/2023	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 02 - 0-4' (H234142-13)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	21.4	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 03 - 0-4' (H234142-14)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	194	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	44.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 04 - 0-4' (H234142-15)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	25.5	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 05 - 0-5' (H234142-16)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	17.2	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 06 - 0-5' (H234142-17)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEX	<0.300	0.300	08/05/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	25.7	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 113 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 07 - 0-5' (H234142-18)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/05/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/05/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/05/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/05/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/05/2023	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	16.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	14.3	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

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

Received:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 08 - 0-5' (H234142-19)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/06/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/06/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/06/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/06/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/06/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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:	08/03/2023	Sampling Date:	08/03/2023
Reported:	08/07/2023	Sampling Type:	Soil
Project Name:	MCA 351	Sampling Condition:	Cool & Intact
Project Number:	03D2057065	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.808124,-103.734293		

Sample ID: SW 09 - 0-5' (H234142-20)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/06/2023	ND	1.98	99.1	2.00	2.03		
Toluene*	<0.050	0.050	08/06/2023	ND	1.90	95.1	2.00	2.11		
Ethylbenzene*	<0.050	0.050	08/06/2023	ND	1.91	95.6	2.00	3.55		
Total Xylenes*	<0.150	0.150	08/06/2023	ND	5.71	95.2	6.00	3.72		
Total BTEx	<0.300	0.300	08/06/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/07/2023	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	08/04/2023	ND	169	84.4	200	5.49	
DRO >C10-C28*	<10.0	10.0	08/04/2023	ND	190	95.2	200	7.70	
EXT DRO >C28-C36	<10.0	10.0	08/04/2023	ND					

Surrogate: 1-Chlorooctane 136 % 48.2-134

Surrogate: 1-Chlorooctadecane 151 % 49.1-148

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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.
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 "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'S REQUEST

Company Name: ENSOLUM, LLC Project Manager: Amel Cole Address: 3722 Nat'l Parks Hwy City: Elmhurst State: NM Zip: 88220 Phone #: 720-384-7365 Fax #: Project #: 0302057065 Project Owner: Maurick Project Name: MPA 351 Project Location: 32.808124, -108.734293 Sampler Name: Juliana Falcumata				BILL TO P.O. #: A-A Company: Attn: Address: City: State: Zip: Phone #: Fax #:				ANALYSIS REQUEST																																	
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING																																	
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H234142		FS03 - 4'		C1								X										X				1345		8/13/23		BTEX TPH Chlorides											
1		FS04 - 4'																								1350															
2		FS05 - 4'																								1355															
3		FS06 - 4'																								1400															
4		FS07 - 5'																								1402															
5		FS08 - 5'																								1404															
6		FS09 - 5'																								1406															
7		FS10 - 5'																								1408															
8		FS11 - 5'																								1410															
9		FS12 - 5'																								1412															
10																																									

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Relinquished By: 		Date: 8/13/23 Time: 1:51		Received By: 		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: All Results are emailed. Please provide Email address:	
Relinquished By: 		Date: 8-3-23 Time: 16:56		Received By: 		REMARKS: nable@ensolum.com jfalcumata@ensolum	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C Corrected Temp. °C		Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/> Thermometer ID #443-#440 sub 2 Day Correction Factor -0.6°C to 8/13/23	
				Checked By: (Initials) 70		Bacteria (only) <input type="checkbox"/> Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	

FORM-006 R 3.3 07/16/22

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

CHAIN-OF-CUSTODY AND ANALYSIS'S REQUEST

Company Name: <u>Ensolum LLC</u>				BILL TO				ANALYSIS REQUEST															
Project Manager: <u>Amel Cook</u>				P.O. #: <u>AA</u>				<div style="display: flex; justify-content: space-around; font-size: 2em;"> BTX PH Chlorides </div>															
Address: <u>3122 Nat'l Parks Hwy</u>				Company:																			
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn:																			
Phone #: <u>720-384-7265</u> Fax #:				Address:																			
Project #: <u>03D2057165</u> Project Owner: <u>Maverick</u>				City:																			
Project Name: <u>MOA 351</u>				State: Zip:																			
Project Location: <u>(32.808124, -108.734293)</u>				Phone #:																			
Sampler Name: <u>Juliana Falcón</u>				Fax #:																			
FOR LAB USE ONLY																							
Lab I.D.		Sample I.D.		MATRIX		PRESERV.		SAMPLING															
<u>H234142</u>		<u>FS13-S'</u>		<u>GROUNDWATER</u>		<u>ICE / COOL</u>		<u>DATE</u>		<u>TIME</u>													
<u>11</u>		<u>SW01 - 0-4'</u>		<u>SOIL</u>		<u>OTHER</u>		<u>8/3/23</u>		<u>1424</u>		<u>X</u>											
<u>12</u>		<u>SW02 - 0-4'</u>		<u>SLUDGE</u>		<u>OTHER</u>		<u>1414</u>		<u>1416</u>		<u>X</u>											
<u>13</u>		<u>SW03 - 0-4'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1418</u>		<u>1412</u>		<u>X</u>											
<u>14</u>		<u>SW04 - 0-4'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1414</u>		<u>1416</u>		<u>X</u>											
<u>15</u>		<u>SW05 - 0-5'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1416</u>		<u>1418</u>		<u>X</u>											
<u>16</u>		<u>SW06 - 0-5'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1418</u>		<u>1420</u>		<u>X</u>											
<u>17</u>		<u>SW07 - 0-5'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1420</u>		<u>1422</u>		<u>X</u>											
<u>18</u>		<u>SW08 - 0-5'</u>		<u>OTHER</u>		<u>OTHER</u>		<u>1422</u>															
<u>19</u>		<u>SW09 - 0-5'</u>		<u>OTHER</u>		<u>OTHER</u>																	
<u>20</u>				<u>OTHER</u>		<u>OTHER</u>																	

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Relinquished By: <u>[Signature]</u>		Date: <u>8/3/23</u>	Received By: <u>[Signature]</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Time: <u>1530</u>		Time: <u>1530</u>		All Results are emailed. Please provide Email address:		
Relinquished By: <u>[Signature]</u>		Date: <u>8-3-23</u>	Received By: <u>[Signature]</u>		REMARKS:	
Time: <u>1656</u>		Time: <u>1656</u>		Remarks: <u>celey@ensolum.com jfalcon@ensolum.com</u>		
Delivered By: (Circle One)		Observed Temp. °C <u>4.1</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C	CHECKED BY: (Initials) <u>YO</u>		Bacteria (only) Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
					Thermometer ID <u>#140</u> Correction Factor <u>-0.6°C</u>	
					Observed Temp. °C Corrected Temp. °C	

FORM-006 R 3.3 07/16/22

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

August 14, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/10/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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.

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: 08/10/2023
 Reported: 08/14/2023
 Project Name: MCA 351
 Project Number: 03D2057065
 Project Location: MAVERICK 32.80821,-103.73417

Sampling Date: 08/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shari Cisneros

Sample ID: PH 01 B 7' (H234295-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEX	<0.300	0.300	08/10/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	1120	16.0	08/11/2023	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	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					

Surrogate: 1-Chlorooctane 86.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 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: 08/10/2023
 Reported: 08/14/2023
 Project Name: MCA 351
 Project Number: 03D2057065
 Project Location: MAVERICK 32.80821,-103.73417

Sampling Date: 08/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shari Cisneros

Sample ID: PH 01 F 11' (H234295-02)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558		
Total BTEX	<0.300	0.300	08/10/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	08/11/2023	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	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.8 % 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 cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 5 of 5

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

Company Name: Ensolum, LLC

Project Manager: Aimee Cole

Address: 3122 National Parks Hwy

City: Carlsbad State: NM Zip: 88220

Phone #: 720-384-7365 Fax #:

Project #: 0352057065 Project Owner:

Project Name: MCA 351

Project Location: 32,80821, -103.73417

Sampler Name: Ronni Hughes

BILL TO

P.O. #: AA

Company:

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Depth
(feet)

(G)RAB OR (C)OMP.

CONTAINERS

MATRIX

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

PRESERV.

SAMPLING

DATE

TIME

TPH

BTEX

CF

x

x

x

x

x

x

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Relinquished By:

Date:

8/10/23

Time:

12:30

Received By:

Shawn Cinneros

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

All Results are emailed. Please provide Email address:

acde@ensolum.com

REMARKS:

Relinquished By:

Date:

Time:

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

☒ Yes ☐ No

CHECKED BY:

(Initials)

Turnaround Time:

Standard

Rush

Bacteria (only) Sample Condition

Cool Intact

☐ Yes ☐ No

Observed Temp. °C

Corrected Temp. °C

Thermometer ID #443440484

Correction Factor -0.56 8/10/23

FORM-006 R 5.2 10/07/21

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



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

August 14, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/10/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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.

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

Received: 08/10/2023
 Reported: 08/14/2023
 Project Name: MCA 351
 Project Number: 03D2057065
 Project Location: MAVERICK 32.80821,-103.73417

Sampling Date: 08/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shari Cisneros

Sample ID: FS11A 6' (H234296-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTX	<0.300	0.300	08/10/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	08/11/2023	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	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	369	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	75.1	10.0	08/11/2023	ND					

Surrogate: 1-Chlorooctane 77.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.4 % 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: 08/10/2023
 Reported: 08/14/2023
 Project Name: MCA 351
 Project Number: 03D2057065
 Project Location: MAVERICK 32.80821,-103.73417

Sampling Date: 08/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shari Cisneros

Sample ID: SW03 A 0-4' (H234296-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.02	101	2.00	0.564	
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.9	2.00	0.617	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.96	98.2	2.00	0.768	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.88	98.0	6.00	0.558	
Total BTEx	<0.300	0.300	08/10/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/11/2023	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	08/11/2023	ND	165	82.4	200	2.11	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	174	87.2	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.2 % 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

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".

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

Project Manager: Aimee Cole

Address: 3122 National Parks Hwy

City: Carlsbad State: NM Zip: 88220

Phone #: 720-384-7365 Fax #:

Project #: 0302057005 Project Owner:

Project Name: MCA 351

Project Location: 32.80821 -103.73417

Sampler Name: Ann. Hynes

BILL TO

P.O. #: AA

Company:

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Depth
(feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

PRESERV.

SAMPLING

DATE

TIME

BTEx

TPH

Cl-

H234296

1

FS11A

6'

C

1

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

PRESERV.

SAMPLING

DATE

TIME

8/10/23

0858

1030

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

X

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Relinquished By:

Date: 8/10/23

Time: 12:30

Received By:

Shane Cisneros

Date:

Time:

Received By:

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

All Results are emailed. Please provide Email address:

acole@ensolum.com

REMARKS:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

4.60

Sample Condition

Cool Intact

☐ Yes ☒ Yes

☐ No ☐ No

CHECKED BY:

(Initials)

AC

Turnaround Time:

Standard

Rush

☒ Rush

Bacteria (only) Sample Condition

Cool Intact

☐ Yes ☐ Yes

☐ No ☐ No

Observed Temp. °C

Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to coley.keene@cardinalabsnm.com



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

August 25, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 351

Enclosed are the results of analyses for samples received by the laboratory on 08/18/23 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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.

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: 08/18/2023
 Reported: 08/25/2023
 Project Name: MCA 351
 Project Number: 03D2057065
 Project Location: MAVERICK 32.80821,-103.734293

Sampling Date: 08/18/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SS 01 0.5' (H234512-01)

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	08/24/2023	ND	1.98	99.2	2.00	1.48	
Toluene*	<0.050	0.050	08/24/2023	ND	2.15	107	2.00	2.32	
Ethylbenzene*	<0.050	0.050	08/24/2023	ND	2.15	108	2.00	3.38	
Total Xylenes*	<0.150	0.150	08/24/2023	ND	6.45	108	6.00	3.61	
Total BTX	<0.300	0.300	08/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	08/23/2023	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	08/24/2023	ND	171	85.5	200	2.22	
DRO >C10-C28*	<10.0	10.0	08/24/2023	ND	179	89.3	200	8.14	
EXT DRO >C28-C36	<10.0	10.0	08/24/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 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

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



CARDINAL
Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

[illegible]

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



APPENDIX E

NMOCD Notifications

From: [Nobui, Jennifer, EMNRD](#)
To: [Kalei Jennings](#)
Cc: [Bratcher, Michael, EMNRD](#); [Harimon, Jocelyn, EMNRD](#); [Hamlet, Robert, EMNRD](#)
Subject: FW: [EXTERNAL] Maverick Permian- Extension Request- MCA 351 (Incident Number NAPP2302034681)
Date: Wednesday, April 19, 2023 11:39:01 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Hello Kalei

OCD approves your 90-day extension request to July 31, 2023 to submit a remediation plan or closure report. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Thursday, April 6, 2023 4:53 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick Permian- Extension Request- MCA 351 (Incident Number NAPP2302034681)

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

To Whom It May Concern,

MCA 351 (Incident Number NAPP2302034681)

Maverick Permian, LLC (Maverick) is requesting an extension for the current deadline of April 6, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for MCA 351 (Incident Number NAPP2302034681). The release was discovered on January 6, 2023. Initial site assessment and delineation activities have been completed. In order to complete additional remediation activities and submit a remediation work plan or closure report, Maverick requests a 90-day extension of this deadline until July 5, 2023.

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503



Ensolum, LLC



From: [Velez, Nelson, EMNRD](#)
To: [Aimee Cole](#)
Subject: Maverick Permian- Extension Request - MCA 351 (Incident Number NAPP2302034681)
Date: Tuesday, August 8, 2023 2:25:52 PM
Attachments: [image.png](#)
[image.png](#)
[image.png](#)
[image.png](#)
[Outlook-degf2b12.png](#)

You don't often get email from nelson.velez@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL]**

Good day Aimee,

Your 45-day time extension request to September 14, 2023 is approved. Remediation Due date has been updated within the incident page.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

Nelson Velez • Environmental Specialist - Adv
Environmental Bureau | EMNRD - Oil Conservation Division
1000 Rio Brazos Road | Aztec, NM 87410
(505) 469-6146 | nelson.velez@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>



previous email submittal;

From: Aimee Cole <acole@ensolum.com>
Sent: Tuesday, August 8, 2023 1:15 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick Permian- Extension Request - MCA 351 (Incident Number NAPP2302034681)

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

To Whom It May Concern,

MCA 351 (Incident Number NAPP2302034681)

Maverick Permian, LLC (Maverick) is requesting an extension of the current deadline for submitting a report required in 9.15.29.12.B.(1) NMAC detailing remedial actions at the MCA 351 (Incident Number NAPP2302034681). Excavation of impacted soil was completed last week. Confirmation samples were collected from the excavation and laboratory analytical reports are pending. Maverick is also planning to drill a depth to water boring to confirm the Site Closure Criteria. The drilling is scheduled for the week of August 21st. In order to review the excavation soil sample laboratory analytical results, complete the depth to water boring, and prepare a closure report, Maverick requests a 45-day extension until September 14, 2023.

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC



From: [Wells, Shelly, EMNRD](#)
To: [Aimee Cole](#)
Cc: [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)
Subject: RE: [EXTERNAL] Maverick - Sampling Notification (Week of 7/31/2023)
Date: Wednesday, July 26, 2023 10:53:35 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

You don't often get email from shelly.wells@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL**]

Hi Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

[Shelly Wells](#) * Environmental Specialist-Advanced
Administrative Permitting Program
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive | Santa Fe, NM 87505
(505)469-7520 | Shelly.Wells@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, July 26, 2023 10:29 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 7/31/2023)

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

All,

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of July 31, 2023.

- Cone Jalmat South Satellite Header / NAPP2301881992
 - Sampling Dates: 7/31/2023 - 8/1/2023
- MCA 351 / NAPP2302034681

- Sampling Date: 8/2/2023 – 8/5/2023

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC



From: [Wells, Shelly, EMNRD](#)
To: [Aimee Cole](#)
Cc: [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)
Subject: RE: [EXTERNAL] Maverick - Sampling Notification (Week of 8/7/2023)
Date: Wednesday, August 2, 2023 2:45:38 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

You don't often get email from shelly.wells@emnrd.nm.gov. [Learn why this is important](#)

[**EXTERNAL EMAIL**]

Good afternoon Aimee,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

[Shelly Wells](#) * Environmental Specialist-Advanced
Administrative Permitting Program
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive | Santa Fe, NM 87505
(505)469-7520 | Shelly.Wells@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, August 2, 2023 2:22 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 8/7/2023)

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

All,

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of August 7, 2023.

- Baish B Battery / NAPP2235372941
 - Sampling Dates: 8/10/2023
- MCA 351 / NAPP2302034681

- Sampling Date: 8/7/2023

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC





APPENDIX F
Form C-141

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

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

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

Incident ID	NAPP2302034681
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: Bryce.Wagoner@mavresources.com	Incident # (assigned by OCD)
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.80821 _____ Longitude -103.73417 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: MCA 351	Site Type
Date Release: 1/2/2023	API# (if applicable) 30-025-24547

Unit Letter	Section	Township	Range	County
G	26	17S	32E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 1.33 bbls	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 7.81 bbls	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

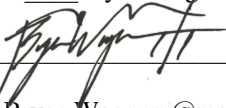
The release was caused by corrosion on a 2 in flowline off-pad. The source of the release has been stopped and the impacted area secured. Initial response and removal of saturated soil from the release area has been completed.

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

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Bryce Wagoner</u>	Title: <u>Permian HSE Specialist II</u>
Signature: 	Date: <u>1/16/2023</u>
email: <u>Bryce.Wagoner@mavresources.com</u>	Telephone: <u>928-241-1862</u>
<u>OCD Only</u>	
Received by: _____	Date: _____

NAPP2302034681

Pooled Fluids on the Surface										
	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries *edges of pool where depth is 0. don't count shared boundaries	Oil-Water Ratio (%)	Pooled Area (ft ²)	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle B					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Volume (bbls):								0.00	0.00	0.00

Subsurface Fluids										
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) *10% in consolidated sediments after rain to 50% in sand with no precipitation	Oil-Water Ratio (%)	Area (ft ²)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	55.0	25.0	4.0	0.1	0.20	1375.0	81.6	6.5	1.31	5.2
Rectangle B	35.0	40.0	1.0	0.1	0.01	1400.0	20.8	1.7	0.02	1.6
Rectangle C	40.0	20.0	1.0	0.1	0.01	800.0	11.9	0.9	0.01	0.9
Rectangle D				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle E				0.1	0.01	0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
Total Volume (bbls):								9.14	1.33	7.81

TOTAL RELEASE VOLUME (bbls):	9.1
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Site Assessment/Characterization

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?	<u>>60</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

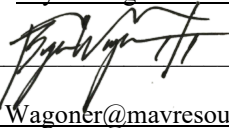
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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Printed Name: Bryce Wagoner

Title: Permian HSE Specialist

Signature: 

Date: 9/12/2023

email: Bryce.Wagoner@mavresources.com

Telephone: 928-241-1862

OCD Only

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Date: _____

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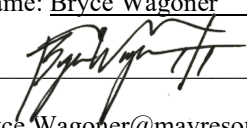
Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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.

Printed Name: Bryce WagonerTitle: Permian HSE SpecialistSignature: Date: 9/12/2023email: Bryce.Wagoner@mavresources.comTelephone: 928-241-1862

OCD Only

Received by: _____

Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Nelson Velez Date: 01/12/2024Printed Name: Nelson VelezTitle: Environmental Specialist - Adv



APPENDIX G NMSLO Reclamation Plan

Reclamation Plan

The release occurred in a pasture area and as such, reclamation requirements set forth in 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation were applied.

The following Reclamation Plan addresses reclamation of the off-pad excavation area and has been developed through review and application of the *Revegetation Guidelines Handbook for Southeastern New Mexico* – Version 1-1, authored by NMSLO and dated 2018, and 19.2.100.67 NMAC – *Surface Reclamation on State Oil and Gas Leases*:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. A minimum of 1-foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;
- Soil in the vicinity of the release in the pasture will be assessed for the proper application of *Table 3 - Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico*;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed listed in the table below;

Common Name and Preferred Variety	Scientific Name	PLS Per Acre
Annual Quick-cover Grass		
Oats	<i>Avena sativa</i>	1.00
Cool Season Grass		
Western Wheatgrass	<i>Agropyron smithii</i>	2.50
Warm-Season Grass		
Black or Blue Grama	<i>Boutela gracilis</i> var. <i>Alma</i>	1.50
Little Bluestem	<i>Schizachyrium scoparium</i>	0.50
Sand Dropseed	<i>Sporobolus cryptandrus</i>	0.50
Sand Bluestem	<i>Andropogon hallii</i>	1.00
Indiangrass	<i>Sorghastrum nutans</i>	0.50
Sideoats Grama	<i>Bouteloua curtipendula</i> var. <i>Vaughn</i>	2.00
Wildflowers/ Forbs		
White prairie clover	<i>Dalea candida</i>	0.10
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	0.10
Chia Sage	<i>Salvia columbariae</i>	0.10
Annual sunflower	<i>Helianthus annuus</i>	0.10
Annual buckwheat	<i>Eriogonum annuum</i>	0.10

- The seed mixture will be distributed with one or more of the following methods: push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding based on Site conditions and contractor availability;
- Application of the seed mixture will be at a coverage of 10 pounds of seeds per acre of reclaimed pasture with distribution by a drilling method or 20 pounds of seeds per acre of reclaimed pasture with distribution by a broadcast method;

- Erosion control management is not anticipated since the proposed excavation area is relatively flat; however, in the event erosion control management is necessary to support vegetation growth and minimize erosion until the root structures take hold, the application of the following best management practices (BMPs) could potentially include:
 - Prompt revegetation with mulching and contouring the ground surface to limit surface water flow;
 - The placement of wattles in areas with a propensity for high run off rates;
 - Straw cover if high winds are anticipated to support moisture retention and limit wind from blowing seeds away before they have had time to germinate; and/or
 - Other erosional control best management practices (BMP) as necessary to support timely and healthy regrowth of vegetation in disturbed areas;
- Backfilling of the excavation will be scheduled and communicated with NMSLO prior to initiation;
- Seeding is anticipated to be completed in the Fall when temperatures and precipitation are most conducive for vegetation growth. In general, seeding should occur approximately one month after the last frost in the Spring up until approximately one month prior to the first fall frost. NMSLO has recognized the optimal time to seed is between July and early September, which will be the preferred timeframe for this Site;
- If seeding occurs outside of the 180 days approved in the current fully executed ROE Permit, a new ROE Permit will be executed prior to entering the pasture for reclamation activities;
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following Fall to assess the success of regrowth. If necessary, an additional application of the NMSLO-approved pure live seed mixture will be applied as well as any needed BMPs will be installed to support growth and limit erosion; and
- Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.

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

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

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

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

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

CONDITIONS

Action 265464

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 265464
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	1/12/2024