



April 5, 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  
Mesa B #2 Tank Battery  
Incident Number nAPP2229734031  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Mesa B #2 Tank Battery (Site). The purpose of these remedial actions was to address impacts to soil resulting from a produced water release at the Site. Based on excavation activities and laboratory analytical results from soil sampling events, BTA is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2229734031.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit P, Section 7, Township 26 South, Range 33 East, in Lea County, New Mexico (32.05169°, -103.60570°) and is associated with oil and gas exploration and production operations on private land owned by AE&J Royalties LLC.

On October 21, 2022, a fitting failure in the steel-to-poly line transition resulted in the release of approximately 21 barrels (bbls) of produced water to the northeast corner of the tank battery and outside the secondary containment into the surrounding pasture. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 12 bbls of produced water were recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a *Release Notification Form C-141* (Form C-141) on October 24, 2022. The release was assigned Incident Number nAPP2229734031.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

The Site was characterized to assess the 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 beneath the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on a nearby soil boring drilled in July 2021. The soil boring, permitted by the New Mexico Office of the State Engineer (NMOSE) as C-04547 POD 1, is located approximately 830 feet northeast of the Site. The soil boring has a reported depth to groundwater of 89.5 feet bgs and a total

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depth of 112 feet bgs. The soil boring was subsequently plugged following approved NMOSE methods. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 711 feet east of 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 (medium 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 ANALYTICAL RESULTS

On November 1, 2022, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Nine assessment soil samples (SS01 through SS09) were collected within and around the release extent at a depth of approximately 0.5 feet bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. 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 soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celsius required for shipment and long term storage, but are considered to have been received in acceptable condition.

Laboratory analytical results for soil samples SS06 through SS09, collected around the release extent, indicated all COC concentrations were compliant with the Closure Criteria and reclamation requirement; laterally defining the release. Laboratory analytical results for assessment soil samples SS01 through SS05, collected within the release extent, indicated chloride concentrations exceeded the Closure

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Criteria and/or the reclamation requirement. Based on laboratory analytical results and visible staining in the release extent, excavation activities appeared to be warranted.

## EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS

Between December 1, 2022, and January 20, 2023, Ensolum personnel were at the Site to oversee excavation activities. Excavation activities were performed using a backhoe, hydrovac, and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to depths ranging from 4 feet to 4.5 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of the 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. Confirmation soil samples FS01 through FS23 were collected from the floor of the excavation at depths ranging from 4 feet to 4.5 feet bgs. Confirmation soil samples SW01 through SW11 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The excavation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

Laboratory analytical results for excavation floor samples FS01 through FS10, FS12, FS14, FS15, FS18 through FS23, and all sidewall samples indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement, where applicable. Laboratory analytical results for FS11, FS13, FS16 and FS17 indicated chloride concentrations initially exceeded the Site Closure Criteria. Additional soil was excavated and terminal samples FS11A, FS13A, FS16A, and FS17A, collected at 4.5 feet bgs, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 4,500 square feet and a total of approximately 750 cubic yards of impacted soil was removed during excavation activities. The impacted soil was transported and properly disposed of at a licensed disposal facility in New Mexico.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the October 21, 2022, produced water release. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and the reclamation requirements, where applicable. Based on the soil sample analytical results, no further remediation is required. BTA will backfill the excavation with material purchased locally and recontour the Site to match pre-existing Site conditions and reseed utilizing a Bureau of Land Management (BLM) approved seed mixture.

BTA believes remedial actions completed to-date are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2229734031. The required NMOCD notifications are included as Appendix D and the Final C-141 is included as Appendix E.

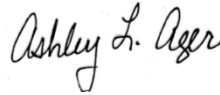
BTA Oil Producers  
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Mesa B #2 Tank Battery

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or [tmorrissey@ensolum.com](mailto:tmorrissey@ensolum.com).

Sincerely,  
**Ensolum, LLC**



Hadlie Green  
Project Geologist



Ashley Ager, MS, PG  
Principal

cc: Bob Hall, BTA Oil Producers, LLC  
AE&J Royalties LLC

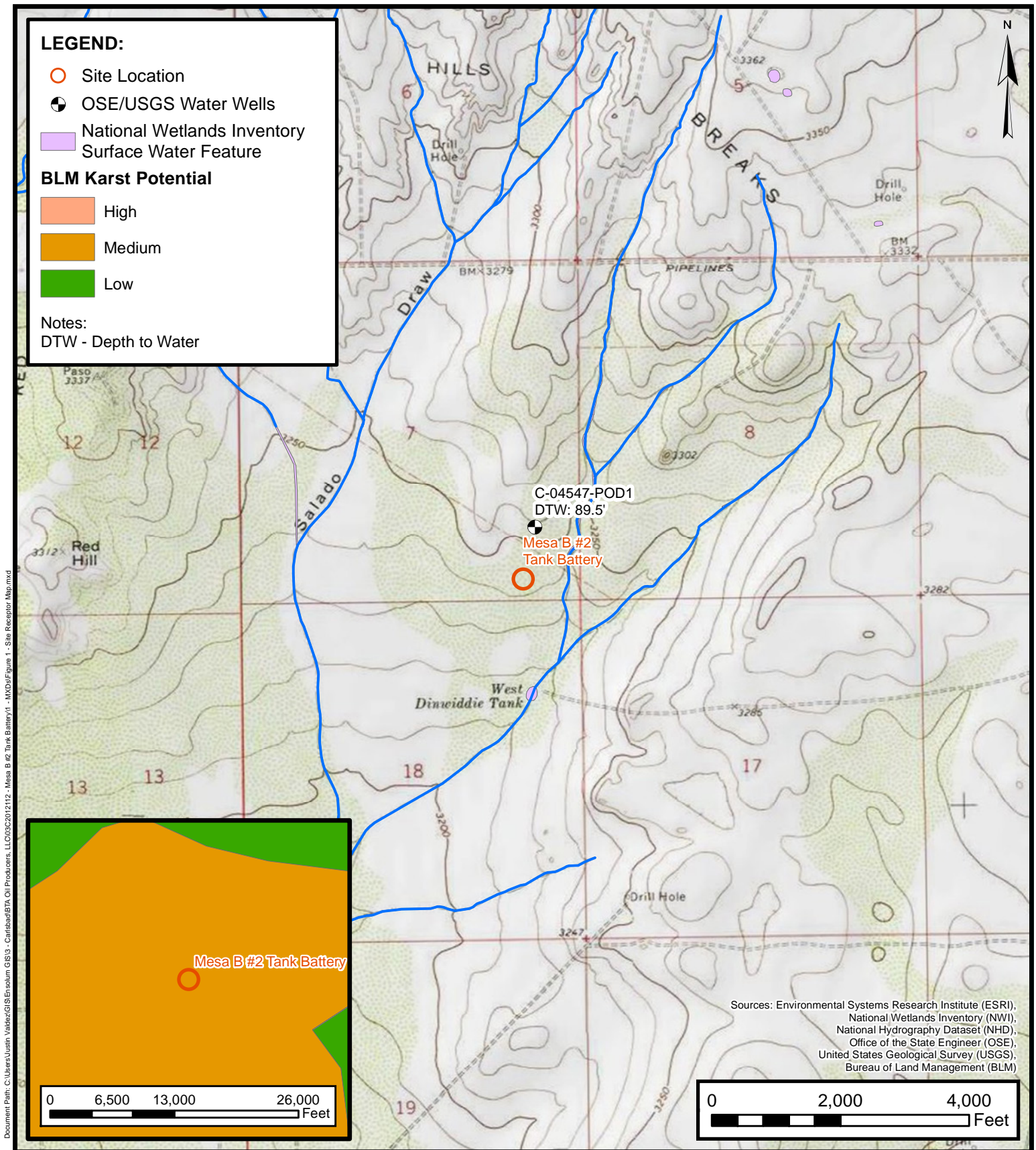
Appendices:

Figure 1	Site Receptor Map
Figure 2	Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix D	NMOCD Notifications
Appendix E	Final C-141



FIGURES





## Site Receptor Map

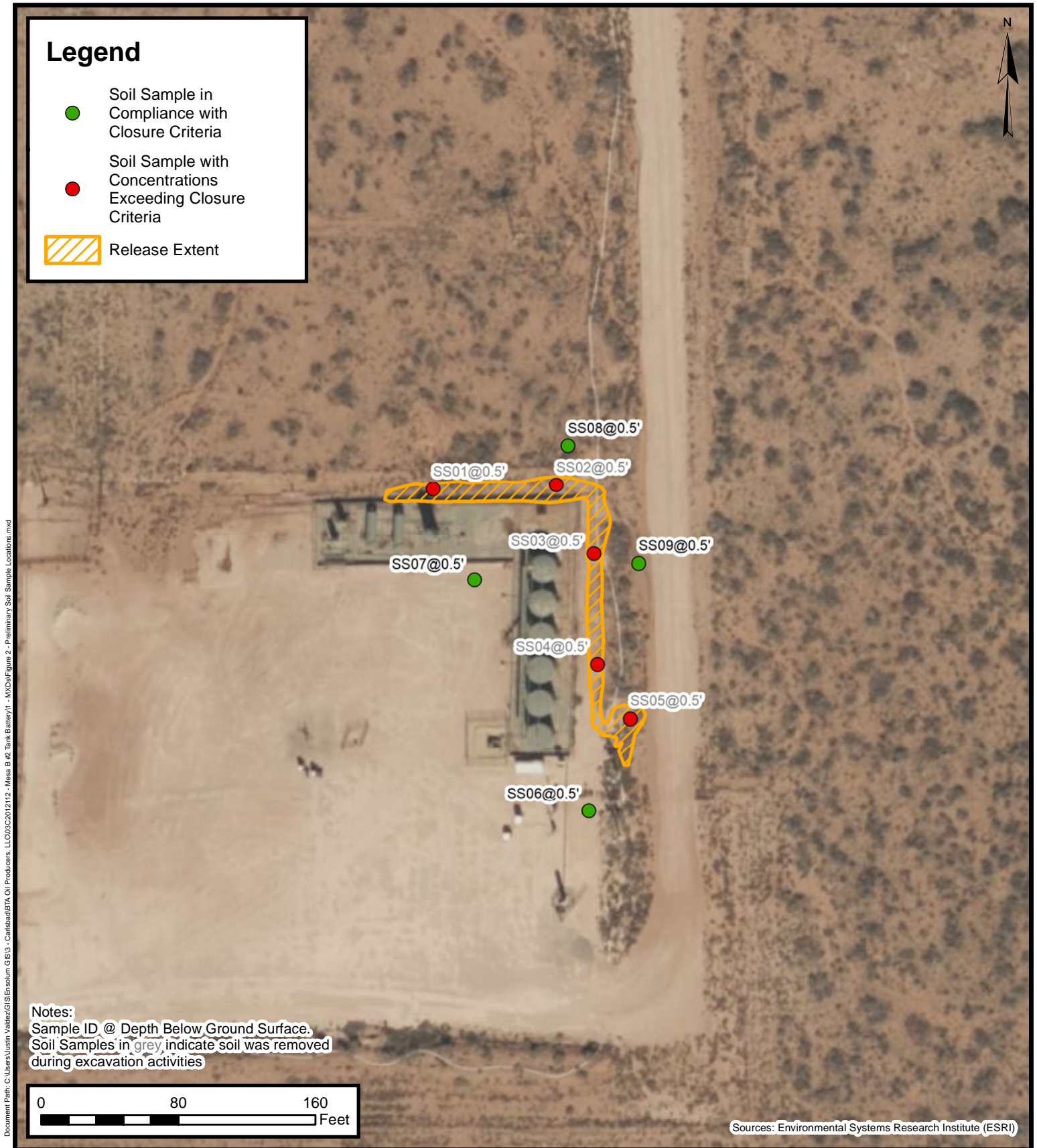
BTA Oil Producers, LLC  
Mesa B #2 Tank Battery  
Incident Number nAPP2229734031  
Unit P, Section 7, Township 26S, Range 33E!  
Lea County, New Mexico

FIGURE

1

**ENSOLUM**  
Environmental, Engineering and  
Hydrogeologic Consultants





## Soil Sample Locations

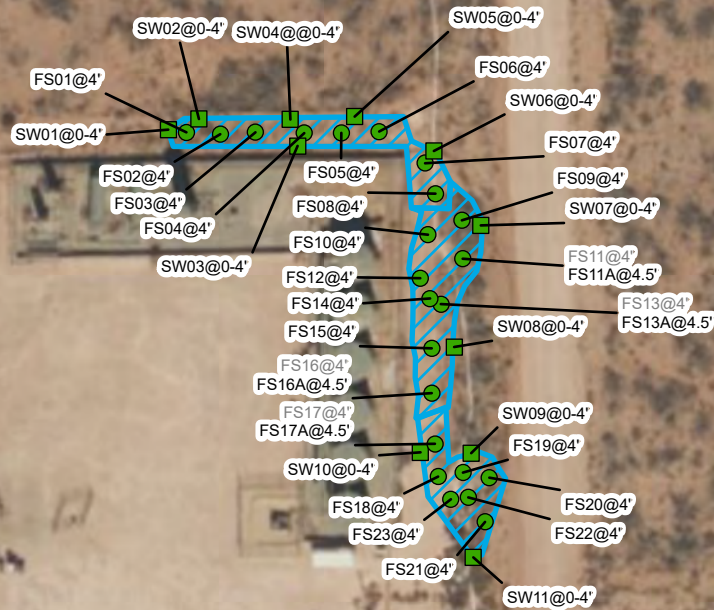
BTA Oil Producers, LLC  
 Mesa B #2 Tank Battery  
 Incident Number nAPP2229734031  
 Unit P, Section 7, Township 26S, Range 33E  
 Lea County, New Mexico

FIGURE  
**2**



## Legend

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



Notes:  
Sample ID @ Depth Below Ground Surface.

0 80 160  
Feet

Sources: Environmental Systems Research Institute (ESRI)



## Excavation Soil Sample Locations

BTA Oil Producers, LLC  
Mesa B #2 Tank Battery  
Incident Number: nAPP229734031  
Unit P, Section 7, Township 26S, Range 33E!  
Lea County, New Mexico

FIGURE  
**3**





TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Mesa B #2 Tank Battery  
 BTA Oil Producers, LLC  
 Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01	11/01/2022	0.5	<0.025	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	896*
SS02	11/01/2022	0.5	<0.025	0.182	<10.0	16.1	<10.0	16.1	16.1	8,320*
SS03	11/01/2022	0.5	<0.025	<0.150	<10.0	18.9	<10.0	18.9	18.9	19,200*
SS04	11/01/2022	0.5	<0.025	<0.150	<10.0	34.2	11.4	34.2	45.6	11,600*
SS05	11/01/2022	0.5	<0.025	0.177	<10.0	<10.0	<10.0	<10.0	<10.0	23,600*
SS06	11/01/2022	0.5	<0.025	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*
SS07	11/01/2022	0.5	<0.025	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*
SS08	11/01/2022	0.5	<0.025	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*
SS09	11/01/2022	0.5	<0.025	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	48.0*
Excavation Floor Soil Samples										
FS01	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS02	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS03	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
FS04	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	736
FS05	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS06	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS07	12/01/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
FS08	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FS09	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,840
FS10	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	992
FS11	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,200
FS11A	01/20/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,520
FS12	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,760
FS13	12/08/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	17,800
FS13A	01/20/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
FS14	12/12/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624
FS15	12/12/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,680



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Mesa B #2 Tank Battery**  
**BTA Oil Producers, LLC**  
**Lea County, New Mexico**

Sample I.D.	Sample Date	Sample 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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>10,000</b>
FS16	12/12/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>12,400</b>
FS16A	01/20/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,680</b>
FS17	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>12,400</b>
FS17A	01/20/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>3,880</b>
FS18	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>8,080</b>
FS19	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>6,720</b>
FS20	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,330</b>
FS21	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,390</b>
FS22	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>656</b>
FS23	12/13/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>6,480</b>
<b>Excavation Sidewall Soil Samples</b>										
SW01	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>352*</b>
SW02	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>48.0*</b>
SW03	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>192*</b>
SW04	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0*</b>
SW05	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>192*</b>
SW06	12/01/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>352*</b>
SW07	12/08/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>96.0*</b>
SW08	12/08/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>32.0*</b>
SW09	12/08/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>64.0*</b>
SW10	12/08/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>16.0*</b>
SW11	12/13/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>32.0*</b>

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

Gray text represents samples that have been excavated

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

\* indicates sample was collected in area to be reclaimed after remediation is complete





## APPENDIX A

### Referenced Well Records

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

OSE DTI AUG 2 2021 PM4:44

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4547			
	WELL OWNER NAME(S) BTA Oil Producers				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S. Pecos St.				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 32	SECONDS 3	14.34	N		
		LONGITUDE	103	36	16.96	W		
* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE SE SE Sec. 07 T26S R33E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/15/2021		DRILLING ENDED 07/15/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 112	DEPTH WATER FIRST ENCOUNTERED (FT) unknown	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 89.5		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	21	±8.5	Boring- HSA	--	--	--	--
	21	112	±3.5	Boring- Air Rotary	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4547	POD NO. 1	TRN NO. 698291
LOCATION 26S-33E-07 4-4-2	WELL TAG ID NO. NA	PAGE 1 OF 2

DSE DTI AUG 2 2021 PM4:44

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	4	4	Caliche, Consolidated , White	Y    ✓ N	
	4	44	40	Sand, Fine-grained, poorly graded, with caliche gravel, Redish Brown	Y    ✓ N	
	44	51	7	Clay, Stiff, Dark Brown,	Y    ✓ N	
	51	103	52	Sandstone, Fine-grained, poorly graded, Tan Brown	✓ Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
					Y    N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):            0.00	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:						

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring plugged using tremie pipe to total depth and landed cement slurry of <6.0 gallons of water per 94 lbs sack of Portland TYPE I/II Neat Cement. See attached Plugging Record	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt, Carmelo Trevino		

6. SIGNATURE	SIGNATURE OF DRILLER / PRINT SIGNEE NAME	DATE
	<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;">             Jackie D. Atkins         </div> <div style="text-align: right;">           07/29/2021         </div> </div>	

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4547	POD NO. 1	TRN NO.	
LOCATION 26S-33E-07 4-4-2	WELL TAG ID NO. NA		PAGE 2 OF 2



# 2021-07-28\_C-4547\_POD1\_OSE\_Well Record and Log\_mesa1-for sign

Final Audit Report

2021-07-29

Created: 2021-07-29






OSE DJT AUG 2 2021 PM4:44

By: Lucas Middleton (lucas@atkinseng.com)

Status: Signed

Transaction ID: CBJCHBCAABAA3aQOFUKeCXoHbozKpK1XeoMdl53lwclm

## "2021-07-28\_C-4547\_POD1\_OSE\_Well Record and Log\_mesa1-for sign" History

-  Document created by Lucas Middleton (lucas@atkinseng.com)  
2021-07-29 - 8:40:54 PM GMT- IP address: 69.21.248.123
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature  
2021-07-29 - 8:41:43 PM GMT
-  Email viewed by Jack Atkins (jack@atkinseng.com)  
2021-07-29 - 8:43:29 PM GMT- IP address: 64.90.153.232
-  Document e-signed by Jack Atkins (jack@atkinseng.com)  
Signature Date: 2021-07-29 - 8:44:00 PM GMT - Time Source: server- IP address: 64.90.153.232
-  Agreement completed.  
2021-07-29 - 8:44:00 PM GMT



## APPENDIX B

### Photographic Log

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**Photographic Log**

BTA Oil Producers

Mesa B #2 Tank Battery

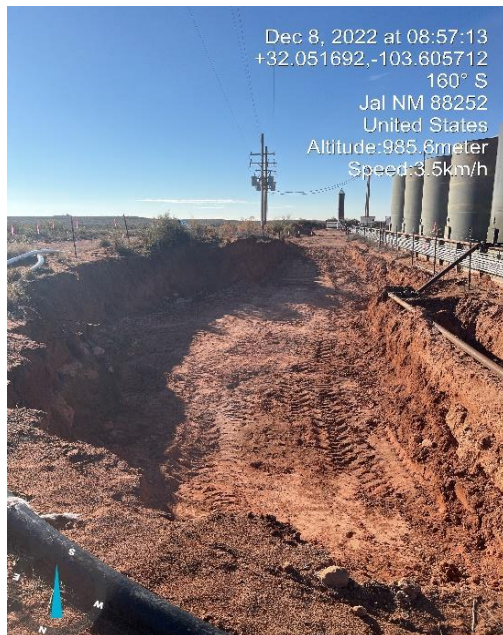
Incident Number nAPP2229734031



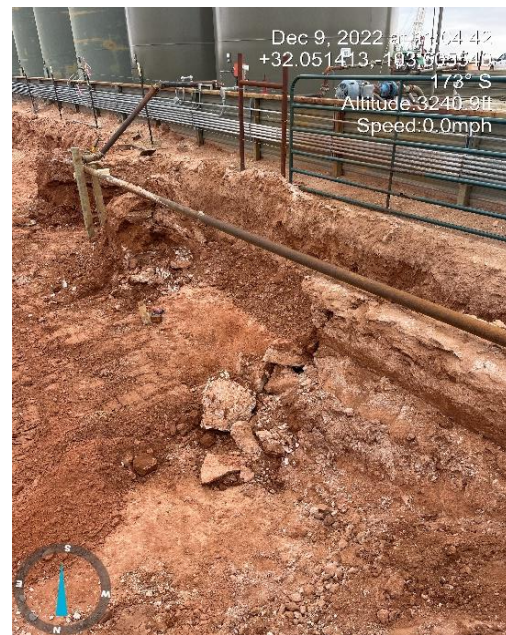
Photograph: 1                      Date: 11/1/2022  
 Description: Photo of Site during initial assessment.  
 View: Southwest



Photograph: 2                      Date: 11/1/2022  
 Description: Photo of Site during initial assessment.  
 View: Northwest



Photograph: 3                      Date: 12/8/2022  
 Description: Photo of Site during excavation.  
 View: South



Photograph: 4                      Date: 12/9/2022  
 Description: Photo of Site during excavation.  
 View: South





## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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

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November 09, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA B #2 TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 11/02/22 14:45.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS01 0.5' (H225157-01)**

BTEX 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77	
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25	
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65	
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53	
Total BTEX	<0.150	0.150	11/09/2022	ND					

Surrogate: Dibromofluoromethane 96.5 % 86.7-111

Surrogate: Toluene-d8 92.6 % 89.3-110

Surrogate: 4-Bromofluorobenzene 96.6 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	896	16.0	11/04/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2022	ND	187	93.4	200	7.35	
DRO >C10-C28*	<10.0	10.0	11/05/2022	ND	191	95.7	200	4.43	
EXT DRO >C28-C36	<10.0	10.0	11/05/2022	ND					

Surrogate: 1-Chlorooctane 106 % 45.3-161

Surrogate: 1-Chlorooctadecane 123 % 46.3-178

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  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS02 0.5' (H225157-02)**

BTEx 8260B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77	
Toluene*	0.079	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25	
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65	
Total Xylenes*	0.103	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53	
Total BTEx	0.182	0.150	11/09/2022	ND					

Surrogate: Dibromofluoromethane 96.6 % 86.7-111  
Surrogate: Toluene-d8 98.8 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 93.3 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8320	16.0	11/04/2022	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2022	ND	187	93.4	200	7.35	
DRO >C10-C28*	16.1	10.0	11/05/2022	ND	191	95.7	200	4.43	
EXT DRO >C28-C36	<10.0	10.0	11/05/2022	ND					

Surrogate: 1-Chlorooctane 104 % 45.3-161  
Surrogate: 1-Chlorooctadecane 123 % 46.3-178

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  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS03 0.5' (H225157-03)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEX	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 96.2 % 86.7-111  
Surrogate: Toluene-d8 94.7 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 96.7 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	19200	16.0	11/04/2022	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2022	ND	187	93.4	200	7.35	
DRO >C10-C28*	18.9	10.0	11/05/2022	ND	191	95.7	200	4.43	
EXT DRO >C28-C36	<10.0	10.0	11/05/2022	ND					

Surrogate: 1-Chlorooctane 104 % 45.3-161  
Surrogate: 1-Chlorooctadecane 120 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS04 0.5' (H225157-04)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEX	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 93.6 % 86.7-111

Surrogate: Toluene-d8 93.2 % 89.3-110

Surrogate: 4-Bromofluorobenzene 94.5 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11600	16.0	11/04/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	34.2	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	11.4	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 77.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.2 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS05 0.5' (H225157-05)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	0.090	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	0.087	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEX	0.177	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 96.1 % 86.7-111  
Surrogate: Toluene-d8 94.0 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 97.6 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	23600	16.0	11/04/2022	ND	400	100	400	3.92	
TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	<10.0	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	<10.0	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 93.5 % 45.3-161  
Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS06 0.5' (H225157-06)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEx	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 96.3 % 86.7-111  
Surrogate: Toluene-d8 94.5 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 94.6 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/04/2022	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	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	<10.0	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	<10.0	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 89.3 % 45.3-161  
Surrogate: 1-Chlorooctadecane 93.0 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS07 0.5' (H225157-07)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEx	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 99.7 % 86.7-111  
Surrogate: Toluene-d8 92.6 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 98.6 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/04/2022	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	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	<10.0	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	<10.0	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 88.6 % 45.3-161  
Surrogate: 1-Chlorooctadecane 92.7 % 46.3-178

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  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS08 0.5' (H225157-08)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEx	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 96.7 % 86.7-111  
Surrogate: Toluene-d8 92.6 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 96.8 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	11/04/2022	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	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	<10.0	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	<10.0	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 92.5 % 45.3-161  
Surrogate: 1-Chlorooctadecane 94.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received: 11/02/2022  
Reported: 11/09/2022  
Project Name: MESA B #2 TANK BATTERY  
Project Number: 03C2012012  
Project Location: BTA ( 32.05169-103.60570 )

Sampling Date: 11/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: SS09 0.5' (H225157-09)**

BTEx 8260B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	11/09/2022	ND	1.87	93.3	2.00	8.77		
Toluene*	<0.025	0.025	11/09/2022	ND	1.83	91.6	2.00	6.25		
Ethylbenzene*	<0.025	0.025	11/09/2022	ND	1.90	94.9	2.00	6.65		
Total Xylenes*	<0.075	0.075	11/09/2022	ND	5.85	97.4	6.00	6.53		
Total BTEx	<0.150	0.150	11/09/2022	ND						

Surrogate: Dibromofluoromethane 95.5 % 86.7-111  
Surrogate: Toluene-d8 93.9 % 89.3-110  
Surrogate: 4-Bromofluorobenzene 96.8 % 88.2-108

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/04/2022	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	11/03/2022	ND	182	91.1	200	2.28	
DRO >C10-C28*	<10.0	10.0	11/03/2022	ND	182	91.0	200	1.70	
EXT DRO >C28-C36	<10.0	10.0	11/03/2022	ND					

Surrogate: 1-Chlorooctane 92.5 % 45.3-161  
Surrogate: 1-Chlorooctadecane 96.2 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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---

### 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

---

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

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December 13, 2022

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B #2 POLY LINE COUPLING FAILURE

Enclosed are the results of analyses for samples received by the laboratory on 12/07/22 13:56.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 01 (H225753-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/08/2022	ND	2.09	105	2.00	2.61	
Toluene*	<0.050	0.050	12/08/2022	ND	2.19	110	2.00	2.86	
Ethylbenzene*	<0.050	0.050	12/08/2022	ND	2.13	107	2.00	2.10	
Total Xylenes*	<0.150	0.150	12/08/2022	ND	6.50	108	6.00	2.48	
Total BTEX	<0.300	0.300	12/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	175	87.6	200	9.12	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	172	86.0	200	14.3	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 79.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 02 (H225753-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/08/2022	ND	2.09	105	2.00	2.61		
Toluene*	<0.050	0.050	12/08/2022	ND	2.19	110	2.00	2.86		
Ethylbenzene*	<0.050	0.050	12/08/2022	ND	2.13	107	2.00	2.10		
Total Xylenes*	<0.150	0.150	12/08/2022	ND	6.50	108	6.00	2.48		
Total BTEx	<0.300	0.300	12/08/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	175	87.6	200	9.12	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	172	86.0	200	14.3	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 81.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.5 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 03 (H225753-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/08/2022	ND	2.09	105	2.00	2.61		
Toluene*	<0.050	0.050	12/08/2022	ND	2.19	110	2.00	2.86		
Ethylbenzene*	<0.050	0.050	12/08/2022	ND	2.13	107	2.00	2.10		
Total Xylenes*	<0.150	0.150	12/08/2022	ND	6.50	108	6.00	2.48		
Total BTEx	<0.300	0.300	12/08/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	12/08/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 70.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 04 (H225753-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-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	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 78.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.2 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 05 (H225753-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 76.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.6 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 06 (H225753-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 78.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.6 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager





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

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

SR  
12/8/23

<b>Company Name:</b> BTA <b>Project Manager:</b> Hadlie Green <b>Address:</b> 601 N. Maricfield St. Suite 400 <b>City:</b> Midland <b>State:</b> TX <b>Zip:</b> 79701 <b>Phone #:</b> 432-557-8895 <b>Fax #:</b> <b>Project #:</b> 0362012012 <b>Project Owner:</b> Bob Hall <b>Project Name:</b> Mesa E #2 Poly Line Coupling Failure <b>Project Location:</b> 32.05169, -103.6057 <b>Sample Name:</b> Peter Van Ratten <b>FOR LAB USE ONLY</b>										<b>P.O. #:</b> <b>Company:</b> BTA O.I <b>Attn:</b> Bob Hall <b>Address:</b> 104 S. Pecos St <b>City:</b> Midland <b>State:</b> TX <b>Zip:</b> 79701 <b>Phone #:</b> 432-312-2203 <b>Fax #:</b>										<b>BILL TO</b>										<b>ANALYSIS REQUEST</b>									
<b>Lab I.D.</b> <b>Sample I.D.</b>										<b>Matrix</b> (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :										<b>Preserv</b> DATE TIME										<b>Sampling</b> Chlorides (EPA: 800.0) 4500 TPH (8015) BTEX (8021)									
1 SW01 C 2 SW02 C 3 SW03 C 4 SW04 C 5 SW05 C 6 SW06 C										12-1 0940 C 12-1 0950 C 12-1 1000 C 12-1 1010 C 12-1 1020 C 12-1 1030 C										C C																			

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<b>Relinquished By:</b> [Signature] <b>Relinquished By:</b> [Signature]										<b>Date:</b> 12-5-22 <b>Time:</b> 1350 <b>Received By:</b> [Signature]										<b>Verbal Result:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Add'l Phone #:</b>									
<b>Reinquinshed By:</b> [Signature] <b>Date:</b> <b>Time:</b>										<b>Received By:</b> [Signature]										<b>REMARKS:</b> hgwen@cardlabs.com									

<b>Delivered By:</b> (Circle One) Corrected Temp. °C 0.3 Sample Condition Cool Intact Yes No CHECKED BY: [Signature] (Initials)										<b>Turnaround Time:</b> Standard Rush <input checked="" type="checkbox"/> Thermometer ID #113 Correction Factor -0.56 -0.1 Bacteria (only) Sample Condition Cool Intact Yes No Observed Temp. °C Corrected Temp. °C									
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



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December 13, 2022

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B #2 POLY LINE COUPLING FAILURE

Enclosed are the results of analyses for samples received by the laboratory on 12/07/22 13:56.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 01 (H225754-01)**

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	12/11/2022	ND	1.98	98.8	2.00	2.63	
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65	
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363	
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47	
Total BTX	<0.300	0.300	12/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 74.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.8 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 02 (H225754-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	12/08/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 73.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 79.0 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 03 (H225754-03)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEX	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	12/08/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 74.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.8 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 04 (H225754-04)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	736	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 77.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.8 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/07/2022  
Reported: 12/13/2022  
Project Name: MESA B #2 POLY LINE COUPLING FAILU  
Project Number: 03C2012012  
Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Shalyn Rodriguez

**Sample ID: FS 05 (H225754-05)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	12/08/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 83.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.8 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 06 (H225754-06)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEX	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	12/08/2022	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 75.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.8 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/07/2022  
 Reported: 12/13/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/01/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 07 (H225754-07)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2022	ND	1.98	98.8	2.00	2.63		
Toluene*	<0.050	0.050	12/11/2022	ND	2.06	103	2.00	2.65		
Ethylbenzene*	<0.050	0.050	12/11/2022	ND	2.05	103	2.00	0.363		
Total Xylenes*	<0.150	0.150	12/11/2022	ND	6.40	107	6.00	1.47		
Total BTEx	<0.300	0.300	12/11/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	12/08/2022	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/08/2022	ND	181	90.4	200	6.26	
DRO >C10-C28*	<10.0	10.0	12/08/2022	ND	162	81.1	200	5.67	
EXT DRO >C28-C36	<10.0	10.0	12/08/2022	ND					

Surrogate: 1-Chlorooctane 88.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

---

Celey D. Keene, Lab Director/Quality Manager



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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

SR  
12/8/22

Company Name: BTA		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: Hadlie Green							
Address: 601 N. Marrenfeld St. Suite 400		Company: BTA oil					
City: Midland		Attn: Bob Hall					
Phone #: 432-557-8895		Address: 104 S. Reno St					
Fax #: 79701		City: Midland					
Project #: 03C2012012		State: TK zip: 79701					
Project Owner: Bob Hall		Phone #: 432-312-2203					
Project Location: 32.05169, -103.6057							
Sampler Name: Peter Van Patten		Fax #:					

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides (EPA: 300.0) 4500	TPH (805)	BTEX (8021)
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H225754	FS01	C								12-1-22	1220	C	C	C
	FS02	C								12-1-22	1230	C	C	C
	FS03	C								12-1-22	1240	C	C	C
	FS04	C								12-1-22	1250	C	C	C
	FS05	C								12-1-22	1300	C	C	C
	FS06	C								12-1-22	1310	C	C	C
	FS07	C								12-1-22	1320	C	C	C

FOR LAB USE ONLY		PRESERV.		SAMPLING	

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Relinquished By: <i>[Signature]</i>	Date: 12-5-22	Received By: <i>[Signature]</i>	Date: 12-5-22
Time: 1350		Time: 1350	
Relinquished By: <i>[Signature]</i>		Received By: <i>[Signature]</i>	
Date: 12-5-22		Date: 12-5-22	
Time: 1350		Time: 1350	

Delivered By: (Circle One)	Observed Temp. °C	Corrected Temp. °C	Sample Condition	CHECKED BY: <i>[Signature]</i>	Turnaround Time:	Standard	Bacteria (only)	Sample Condition
Sampler - UPS - Bus - Other:	0.9	0.3	Cool Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Cool Intact Yes <input type="checkbox"/> No <input type="checkbox"/>	Observed Temp. °C
								Corrected Temp. °C

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

REMARKS: *ngreen@ensdun.com*



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

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December 19, 2022

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B #2

Enclosed are the results of analyses for samples received by the laboratory on 12/14/22 13:40.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 11 @ 0'-4' (H225898-01)**

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	12/16/2022	ND	2.14	107	2.00	0.967	
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35	
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35	
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61	
Total BTEX	<0.300	0.300	12/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/16/2022	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	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 92.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 14 @ 4' (H225898-02)**

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	12/16/2022	ND	2.14	107	2.00	0.967	
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35	
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35	
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61	
Total BTEx	<0.300	0.300	12/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	12/16/2022	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	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 15 @ 4' (H225898-03)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTX	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500CI-B			mg/kg							
			Analyzed By: GM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9680	16.0	12/16/2022	ND	432	108	400	3.77	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	12/15/2022	ND	199	99.5	200	18.0		
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4		
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND						

Surrogate: 1-Chlorooctane 85.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/12/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 16 @ 4' (H225898-04)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEx	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12400	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 99.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 17 @ 4' (H225898-05)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEx	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12400	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 97.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 18 @ 4' (H225898-06)**

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	12/16/2022	ND	2.14	107	2.00	0.967	
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35	
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35	
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61	
Total BTEX	<0.300	0.300	12/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8080	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 95.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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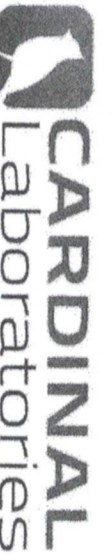
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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

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: <b>Ensdum, LLC</b>	<b>BILL TO</b>	ANALYSIS REQUEST
----------------------------------	----------------	------------------

Project Manager: <b>Hobie Green</b>	P.O. #:
Address: <b>3122 National Parks Hwy</b>	Company: <b>BTA 011</b>
City: <b>Carksbad</b>	Attn: <b>Bob Hall</b>
State: <b>NM</b> Zip: <b>88220</b>	Address: <b>104 S. Feros St</b>
Phone #: <b>432-557-8895</b> Fax #: <b></b>	City: <b>Hildand</b>
Project #: <b>03C012012</b> Project Owner:	State: <b>TX</b> Zip: <b>79701</b>
Project Name: <b>Mesa B #2</b>	Phone #: <b>432-312-2203</b>
Project Location:	Fax #:
Sampler Name: <b>Peter la Rke</b>	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides	BTEX	TPH					
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :										
H25898	SW1 @ 0'-4'		1							12-13	0940								
	2 FS14 @ 4'		1							12-12	1300								
	3 FS15		1							12-12	1310								
	4 FS16		1							12-12	1320								
	5 FS17		1							12-13	1000								
	6 FS18		1							12-13	1010								

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Relinquished By: <b>Peter la Rke</b>	Date: <b>12/14/22</b>	Received By: <b>Stediequert</b>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date: <b>1/3/20</b>	Received By:	All Results are emailed. Please provide Email address:	
	Time:		<b>hgreen@ensdum.com, twofifsey@ensdum.com</b>	
	Date:		REMARKS: <b>Insuband # n APP2229734031</b>	
	Time:			

Delivered By: (Circle One)	Observed Temp. °C <b>0.1°C</b>	Sample Condition	CHECKED BY: <b>(initials)</b>	Turnaround Time: <b>Standard</b>	Thermometer ID #113	Bacteria (only)	Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C <b>-0.5°C</b>	Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		Rush <input type="checkbox"/>	Correction Factor <b>-0.5°C</b>	Cool <input type="checkbox"/> Intact <input type="checkbox"/>	Observed Temp. °C
		No <input type="checkbox"/> Yes <input type="checkbox"/>				No <input type="checkbox"/> Yes <input type="checkbox"/>	Corrected Temp. °C

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



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

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December 19, 2022

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B #2

Enclosed are the results of analyses for samples received by the laboratory on 12/14/22 13:40.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 19 @ 4' (H225899-01)**

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	12/16/2022	ND	2.14	107	2.00	0.967	
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35	
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35	
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61	
Total BTX	<0.300	0.300	12/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6720	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 95.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 20 @ 4' (H225899-02)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEx	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1330	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 98.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 21 @ 4' (H225899-03)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEX	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 129 % 45.3-161

Surrogate: 1-Chlorooctadecane 144 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 22 @ 4' (H225899-04)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEx	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	656	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 96.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2  
 Project Number: 03C2012012  
 Project Location: NONE GIVEN

Sampling Date: 12/13/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 23 @ 4' (H225899-05)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEX	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6480	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 86.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.3 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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### Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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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

Page 8 of 8



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

---

December 19, 2022

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B #2 POLY LINE COUPLING FAILURE

Enclosed are the results of analyses for samples received by the laboratory on 12/14/22 13:40.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	12/14/2022	Sampling Date:	12/08/2022
Reported:	12/19/2022	Sampling Type:	Soil
Project Name:	MESA B #2 POLY LINE COUPLING FAILU	Sampling Condition:	Cool & Intact
Project Number:	03C2012012	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - 32.05169,-103.6057		

**Sample ID: SW 07 @ 0-4' (H225900-01)**

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	12/16/2022	ND	2.14	107	2.00	0.967	
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35	
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35	
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61	
Total BTEX	<0.300	0.300	12/16/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 97.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 08 @ 0-4' (H225900-02)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEX	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 98.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 09 @ 0-4' (H225900-03)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEx	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 98.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 10 @ 0-4' (H225900-04)**

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	12/16/2022	ND	2.14	107	2.00	0.967		
Toluene*	<0.050	0.050	12/16/2022	ND	2.18	109	2.00	1.35		
Ethylbenzene*	<0.050	0.050	12/16/2022	ND	2.21	110	2.00	1.35		
Total Xylenes*	<0.150	0.150	12/16/2022	ND	6.64	111	6.00	1.61		
Total BTEX	<0.300	0.300	12/16/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 08 @ 4' (H225900-05)**

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	12/17/2022	ND	2.20	110	2.00	3.25		
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13		
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25		
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23		
Total BTEX	<0.300	0.300	12/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 123 % 45.3-161

Surrogate: 1-Chlorooctadecane 134 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 09 @ 4' (H225900-06)**

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	12/17/2022	ND	2.20	110	2.00	3.25		
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13		
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25		
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23		
Total BTEx	<0.300	0.300	12/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7840	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 91.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.0 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 10 @ 4' (H225900-07)**

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	12/17/2022	ND	2.20	110	2.00	3.25		
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13		
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25		
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23		
Total BTEX	<0.300	0.300	12/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	992	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 107 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 11 @ 4' (H225900-08)**

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	12/17/2022	ND	2.20	110	2.00	3.25	
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13	
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25	
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23	
Total BTX	<0.300	0.300	12/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12200	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 113 % 45.3-161

Surrogate: 1-Chlorooctadecane 122 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 12 @ 4' (H225900-09)**

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	12/17/2022	ND	2.20	110	2.00	3.25		
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13		
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25		
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23		
Total BTEX	<0.300	0.300	12/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3760	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/15/2022	ND	199	99.5	200	18.0	
DRO >C10-C28*	<10.0	10.0	12/15/2022	ND	177	88.3	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	12/15/2022	ND					

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 114 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 12/14/2022  
 Reported: 12/19/2022  
 Project Name: MESA B #2 POLY LINE COUPLING FAILU  
 Project Number: 03C2012012  
 Project Location: BTA - 32.05169,-103.6057

Sampling Date: 12/08/2022  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 13 @ 4' (H225900-10)**

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	12/17/2022	ND	2.20	110	2.00	3.25	
Toluene*	<0.050	0.050	12/17/2022	ND	2.23	112	2.00	3.13	
Ethylbenzene*	<0.050	0.050	12/17/2022	ND	2.26	113	2.00	3.25	
Total Xylenes*	<0.150	0.150	12/17/2022	ND	6.84	114	6.00	3.23	
Total BTX	<0.300	0.300	12/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	17800	16.0	12/16/2022	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/16/2022	ND	200	99.8	200	7.26	
DRO >C10-C28*	<10.0	10.0	12/16/2022	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	12/16/2022	ND					

Surrogate: 1-Chlorooctane 92.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

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

---

Celey D. Keene, Lab Director/Quality Manager

## BILL TO

## ANALYSIS REQUEST

[illegible]

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	DATE	TIME	Chlorides	BTEX	TPH
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE						
H2259DD	1 SW07 @ 0-4'	C	1			X			X	12/08/22	1040	X	X	X
	2 SW08										1015			
	3 SW09										1020			
	4 SW10										1045			
	5 FS08 @ 4'										1105			
	6 FS09										1110			
	7 FS10										1115			
	8 FS11										1120			
	9 FS12										1125			
	10 FS13										1130			

**PLEASE NOTE:** Liability and damages, Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract, tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analyses. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client's subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 10/11/22	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: 1340	Shedding	All Results are emailed. Please provide Email address:	
	Date:		ngreen@ensolum.com	tmorris@ensolum.com
	Time:		REMARKS: Incident #: nAPP2229734031	
Delivered By: (Circle One)	Observed Temp. °C: 0.12	Sample Condition	CHECKED BY: (initials)	Turnaround Time:
Corrected Temp. °C: -0.52	<input checked="" type="checkbox"/> Cool <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Impact <input type="checkbox"/> Yes <input type="checkbox"/> No			Standard Rush <input checked="" type="checkbox"/>
Sampler - UPS - Bus - Other:				Thermometer ID #113
				Correction Factor: -0.6°C
				<input type="checkbox"/> Bacteria (only) <input type="checkbox"/> Cool <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
				Observed Temp. °C
				Corrected Temp. °C



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---

January 25, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA B #2 POLY LINE COUPLING FAILURE

Enclosed are the results of analyses for samples received by the laboratory on 01/23/23 12:45.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	01/23/2023	Sampling Date:	01/20/2023
Reported:	01/25/2023	Sampling Type:	Soil
Project Name:	MESA B #2 POLY LINE COUPLING FAILU	Sampling Condition:	Cool & Intact
Project Number:	03C2012012	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA- LEA CO NM		

**Sample ID: FS 11 A (H230320-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/24/2023	ND	1.87	93.6	2.00	14.0	
Toluene*	<0.050	0.050	01/24/2023	ND	1.94	96.9	2.00	14.7	
Ethylbenzene*	<0.050	0.050	01/24/2023	ND	1.88	94.2	2.00	14.3	
Total Xylenes*	<0.150	0.150	01/24/2023	ND	5.83	97.1	6.00	14.2	
Total BTEX	<0.300	0.300	01/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3520	16.0	01/23/2023	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	01/24/2023	ND	203	101	200	0.216	
DRO >C10-C28*	<10.0	10.0	01/24/2023	ND	210	105	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	01/24/2023	ND					

Surrogate: 1-Chlorooctane 69.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	01/23/2023	Sampling Date:	01/20/2023
Reported:	01/25/2023	Sampling Type:	Soil
Project Name:	MESA B #2 POLY LINE COUPLING FAILU	Sampling Condition:	Cool & Intact
Project Number:	03C2012012	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA- LEA CO NM		

**Sample ID: FS 13 A (H230320-02)**

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	01/24/2023	ND	1.87	93.6	2.00	14.0		
Toluene*	<0.050	0.050	01/24/2023	ND	1.94	96.9	2.00	14.7		
Ethylbenzene*	<0.050	0.050	01/24/2023	ND	1.88	94.2	2.00	14.3		
Total Xylenes*	<0.150	0.150	01/24/2023	ND	5.83	97.1	6.00	14.2		
Total BTEX	<0.300	0.300	01/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	01/23/2023	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	01/24/2023	ND	203	101	200	0.216	
DRO >C10-C28*	<10.0	10.0	01/24/2023	ND	210	105	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	01/24/2023	ND					

Surrogate: 1-Chlorooctane 77.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.7 % 49.1-148

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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	01/23/2023	Sampling Date:	01/20/2023
Reported:	01/25/2023	Sampling Type:	Soil
Project Name:	MESA B #2 POLY LINE COUPLING FAILU	Sampling Condition:	Cool & Intact
Project Number:	03C2012012	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA- LEA CO NM		

**Sample ID: FS 16 A (H230320-03)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/24/2023	ND	1.87	93.6	2.00	14.0		
Toluene*	<0.050	0.050	01/24/2023	ND	1.94	96.9	2.00	14.7		
Ethylbenzene*	<0.050	0.050	01/24/2023	ND	1.88	94.2	2.00	14.3		
Total Xylenes*	<0.150	0.150	01/24/2023	ND	5.83	97.1	6.00	14.2		
Total BTEX	<0.300	0.300	01/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2680	16.0	01/23/2023	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	01/24/2023	ND	203	101	200	0.216	
DRO >C10-C28*	<10.0	10.0	01/24/2023	ND	210	105	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	01/24/2023	ND					

Surrogate: 1-Chlorooctane 84.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
HADLIE GREEN  
3122 NATIONAL PARKS HWY  
CARLSBAD NM, 88220  
Fax To:

Received:	01/23/2023	Sampling Date:	01/20/2023
Reported:	01/25/2023	Sampling Type:	Soil
Project Name:	MESA B #2 POLY LINE COUPLING FAILU	Sampling Condition:	Cool & Intact
Project Number:	03C2012012	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA- LEA CO NM		

**Sample ID: FS 17 A (H230320-04)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/24/2023	ND	1.87	93.6	2.00	14.0		
Toluene*	<0.050	0.050	01/24/2023	ND	1.94	96.9	2.00	14.7		
Ethylbenzene*	<0.050	0.050	01/24/2023	ND	1.88	94.2	2.00	14.3		
Total Xylenes*	<0.150	0.150	01/24/2023	ND	5.83	97.1	6.00	14.2		
Total BTEX	<0.300	0.300	01/24/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3880	16.0	01/23/2023	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	01/24/2023	ND	203	101	200	0.216	
DRO >C10-C28*	<10.0	10.0	01/24/2023	ND	210	105	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	01/24/2023	ND					

Surrogate: 1-Chlorooctane 70.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

A-01	8015 DRO FAILED HIGH. ALL ASSOCIATED SAMPLES ND FOR DRO.
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



## Page 7 of 7

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





## APPENDIX D

### NMOCD Notifications

---

**Anita Thapalia**

---

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Monday, November 14, 2022 6:01 PM  
**To:** Hadlie Green; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD  
**Subject:** Re: [EXTERNAL] BTA - Sampling Notification - Week of November 14th - November 18th

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

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion in the project file.

---

**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Monday, November 14, 2022 3:53 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of November 14th - November 18th

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

All,

BTA anticipates collecting confirmation samples at the following locations this week, November 14<sup>th</sup> through the 18<sup>th</sup>.

- Mesa B #2 Poly Line Coupling Failure (nAPP2229734031)
  - GPS: 32.05169, -103.6057
- RGA #1 Stuffing Box Failure (nAPP2228347919)
  - GPS: 32.30386, -104.05949

Thank you,



**Hadlie Green**

Staff Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC

in f 

**From:** [Hadlie Green](#)  
**To:** [OCD.Enviro@state.nm.us](mailto:OCD.Enviro@state.nm.us)  
**Cc:** [Tacoma Morrissey](#); [Bob Hall](#)  
**Subject:** BTA - Extension Request - Mesa B #2 Tank Battery (Incident Number nAPP2229734031)  
**Date:** Thursday, January 19, 2023 8:05:00 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

All,

BTA is requesting an extension for the current deadline of January 19, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for Mesa B #2 Tank Battery (Incident Number nAPP2229734031). The release was discovered on October 21, 2022. Initial site assessment activities have been completed and excavation activities are ongoing. In order to complete additional remediation activities and submit a remediation work plan or closure report, BTA requests a 90-day extension of this deadline until April 19, 2023.

Thank you,



**Hadlie Green**

Staff Geologist

432-557-8895

[hgreen@ensolum.com](mailto:hgreen@ensolum.com)

**Ensolum, LLC**

**in f** 



APPENDIX E

Final 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	nAPP2229734031
District RP	
Facility ID	fAPP2129922900
Application ID	

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2229734031
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.05169 Longitude: -103.60570

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Mesa B #2 Tank Battery	Site Type: Tank Battery
Date Release Discovered: 10/21/2022	API# (if applicable) Nearest well:

Unit Letter	Section	Township	Range	County
P	7	26S	33E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: AE&J Royalties LLC)

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 21 BBL	Volume Recovered (bbls) 12 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Steel/Poly Line Transition Fitting failure. The fitting failed, releasing produced water on the northeast corner of the tank battery pad immediately outside of the secondary containment. Recovered 12 BW with vacuum truck.

Spill volume calculation attached.


State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2229734031
District RP	
Facility ID	fAPP2129922900
Application ID	

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

**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: Bob Hall Title: Environmental Manager
Signature:  Date: 10/24/2022
email: bhall@btaoil.com Telephone: 432-682-3753
<b><u>OCD Only</u></b>
Received by: _____ Date: _____



Location Mesa B #2 Poly Line Coupling

API #

Spill Date 10/21/2022

**Spill Dimensions**

ENTER - Length of Spill

 feet

ENTER - Width of Spill

 feet

ENTER - Saturation Depth of Spill

 inches

ENTER - Porosity Factor

 decimal**Oil Cut - Well Test / Vessel Throughput or Contents**

Oil

Water

Calculated Oil Cut

**Volume Recovered in Truck / Containment**

ENTER - Recovered Oil

 BBL

ENTER - Recovered Water

 BBL**Calculated Values**

Release of Oil in Soil - Unrecovered

 BBL

Release of Water in Soil - Unrecovered

 BBL

Unrecovered Total Release

 BBL**Calculated Values**

Total Release of Oil

 BBL

Total Release of Water

 BBL

Total Release

 BBL

Types of Soil	Porosity Factor
Gravel	0.25
Sand	0.20
Clay/silt/sand Mix	0.15
Clay	0.05
Caliche	0.03
Unknown	0.25

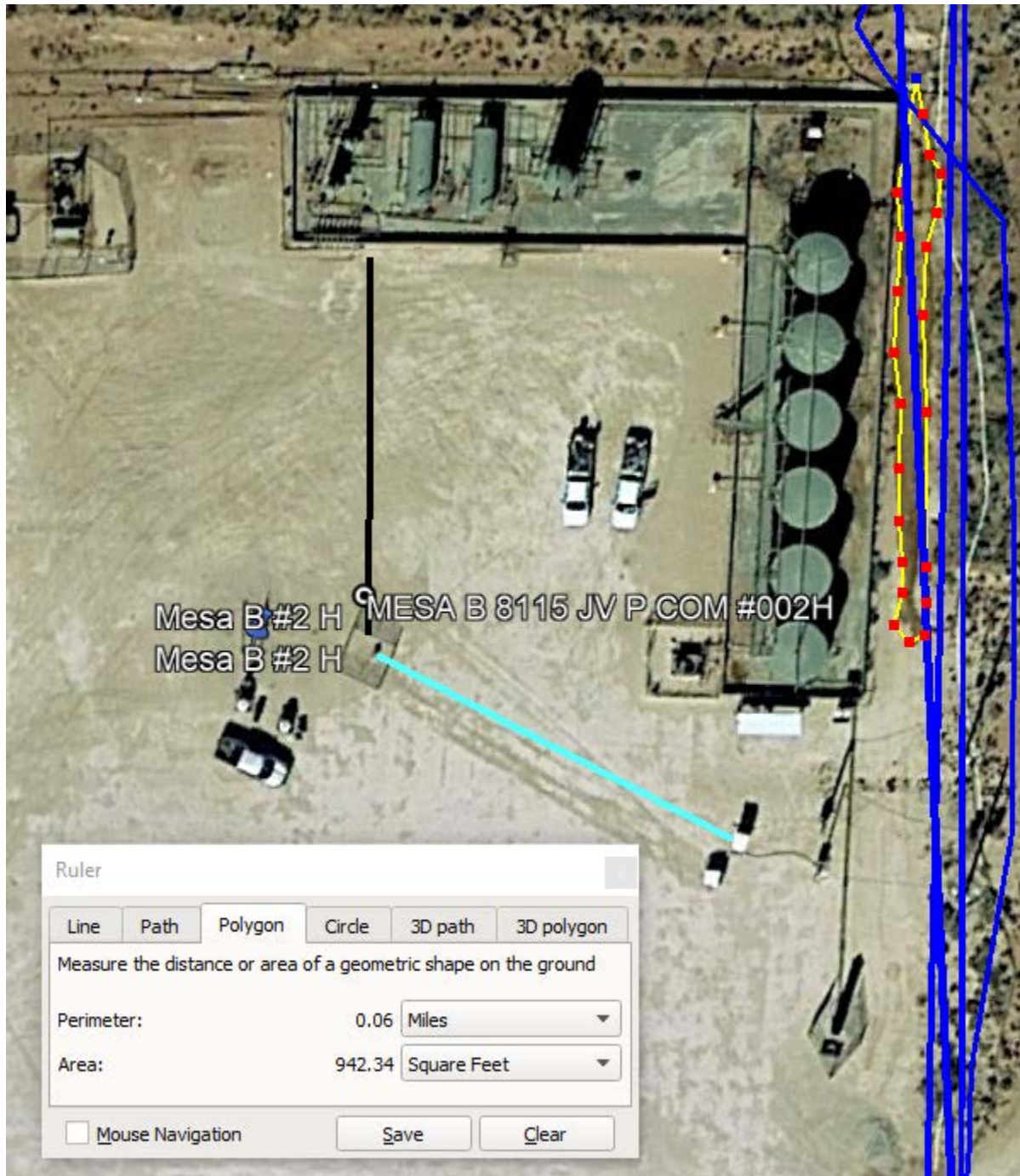
(Length X Width X Depth X 1 ft/12 in) X Porosity5.615 ft<sup>3</sup> / BBL

X

Oil Cut  
(or Water Cut)

Mesa B #2 Tank Battery – 10/21/2022

Steel/Poly Line Transition Fitting failure.  
32.051691 -103.605700



Incident ID	nAPP2229734031
District RP	
Facility ID	fAPP2129922900
Application ID	

## 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>50-100</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 <b>not</b> 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.

Form C-141

State of New Mexico  
Oil Conservation Division

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Incident ID	nAPP2229734031
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Facility ID	fAPP2129922900
Application ID	

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: Bob HallTitle: Environmental ManagerSignature: Date: 4/5/2023email: bhall@btaoil.comTelephone: 432-682-3753**OCD Only**Received by: Jocelyn HarimonDate: 04/05/2023

Form C-141

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State of New Mexico  
Oil Conservation Division

Incident ID	nAPP2229734031
District RP	
Facility ID	fAPP2129922900
Application ID	

## 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: Bob Hall Title: Environmental ManagerSignature:  Date: 4/5/2023email: bhall@btaoil.com Telephone: 432-682-3753**OCD Only**Received by: Jocelyn Harimon Date: 04/05/2023

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:  Date: 05/03/2023Printed Name: Jennifer Nobui Title: Environmental Specialist A



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
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 204530

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 204530
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	5/3/2023