



August 3, 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 8105 #9, 11, 13, 18 Tank Battery  
Incident Number nRM2013640481  
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 site assessment and soil sampling activities performed at the Mesa 8105 #9, 11, 13, 18 Tank Battery (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water and crude oil within a lined containment at the Site. Based on field observations, field screening activities, and laboratory analytical results, BTA is submitting this *Closure Request*, describing Site assessment and delineation activities that have occurred and requesting closure for Incident Number nRM2013640481.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit N, Section 1, Township 26 South, Range 32 East, in Lea County, New Mexico (32.06591°, -103.62886°) and is associated with oil and gas exploration on Federal Land managed by the Bureau of Land Management (BLM).

On May 12, 2020, the body of a dump valve on the Mesa 18H separator washed out, resulting in the release of approximately 130 barrels (bbls) of produced water and 45 bbls of crude oil into the lined containment; all 175 bbls were recovered from within the lined containment. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a *Release Notification Form C-141* (Form C-141) on May 13, 2020. The release was assigned Incident Number nRM2013640481.

**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 at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04485, located approximately 0.28 miles southwest of the Site. The groundwater well was drilled to a depth of 55 feet bgs, and no water was encountered. Ground surface elevation at the groundwater well location is 3,289

BTA Oil Producers, LLC  
Closure Request  
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feet above mean sea level (amsl), which is approximately 32 feet lower in elevation than the Site. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well record is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a riverine, located approximately 890 feet north 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 1 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): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

## SITE ASSESSMENT ACTIVITIES

An advance notice of the liner inspection was provided via email on June 29, 2023, to the NMOCD. A liner integrity inspection was conducted by Ensolum personnel on July 5, 2023. Upon inspection, no rips, tears, holes, or damage was observed. The liner was determined to be sufficient and all released fluids have been removed.

In addition to assessing the liner integrity, four discrete delineation soil samples (SS01 through SS04) were collected at a depth of 0.5 feet bgs to confirm the lateral release extent did not extend outside the containment. Delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted at the Site. 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 analyses of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM4500.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all delineation soil samples SS01 through SS04 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and successfully confirmed the release did not breach the sidewalls of the lined containment. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

## CLOSURE REQUEST

BTA Oil Producers, LLC  
Closure Request  
Mesa 8105 #9, 11, 13, 18 Tank Battery



Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the May 2020 produced water and crude oil release within the lined containment. A liner integrity inspection was conducted by Ensolum personnel on July 5, 2023. Upon inspection, no rips, tears, holes, or damage was observed, and the liner was determined to be sufficient. Laboratory analytical results for the delineation soil samples, collected around the lined containment, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria, confirming the released fluids did not breach the sidewalls of the lined containment. The release was contained laterally by the lined containment and the liner was performing as designed.

Based on initial response efforts, the liner operating as designed, and soil sample laboratory analytical results confirming the absence of impacted soil outside containment, BTA respectfully requests closure for Incident Number nRM2013640481. Notifications submitted to the NMOCD are included in Appendix D and the final Form C-141 is included in Appendix E.

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**

A handwritten signature in black ink, appearing to read "M. Roberts", written over a light blue horizontal line.

Meredith Roberts  
Staff Geologist

A handwritten signature in black ink, appearing to read "D. Moir", written over a light blue horizontal line.

Daniel R. Moir, PG  
Senior Managing Geologist

cc: Kelton Beaird, BTA  
Nathan Sirgo, BTA  
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Reference 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





# FIGURE 1



**Legend**

- Delineation Soil Sample in Compliance with Closure Criteria



Notes:  
Sample ID @ Depth Below Ground Surface.

0 25 50  
Feet

Sources: Environmental Systems Research Institute (ESRI)



## Delineation Soil Sample Locations

BTA Oil Producers, LLC  
Mesa 8105 #9, 11, 13, 18 Tank Battery  
Incident Number: nRM2013640481  
Unit N, Sec 1, T26S, R32E  
Lea County, New Mexico

## FIGURE

## 2



TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Mesa 8105 #9, 11, 13, 18 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
Delineation Soil Samples										
SS01	06/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS02	06/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS03	06/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS04	06/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon





## APPENDIX A

### Referenced Well Records

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

**www.ose.state.nm.us**

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-04485		OWL 362	WELL TAG ID NO. NA	OSE FILE NO(S). C-04485	
	WELL OWNER NAME(S) KJ ENVIRONMENTAL			PHONE (OPTIONAL) 214-287-5875		
	WELL OWNER MAILING ADDRESS 500 MOSSELEY ROAD			CITY CROSS ROADS	STATE TX      ZIP 76227	
	WELL LOCATION (FROM GPS)	DEGREES 3548560		MINUTES	SECONDS	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
		LATITUDE			N	
		LONGITUDE	629271	W		
	DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE					

[illegible]

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				
55	43	8"	Sand 10/20	10	tremie
43	41	8"	Hole Plug	1	
41	0	8"	Grout	100 gal.	↓

FOR OSE INTERNAL USE

FILE NO. 00-2599

LOCATION 2-2-4

POD NO.

2N-33E-10

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

TRN NO. 69336

WELL TAG ID NO.

PAGE 1 OF 2



STATE ENGINEER OFFICE  
HONOLULU, HAWAII  
2020 NOV 19  
0.00  
2021 APR 14  
METHOD,  
D. 11-116

Released to Imaging: 11/7/2023 9:50:02 AM

Lea County, New Mexico  
Latitude 32°02'45", Longitude 103°33'59" NAD27  
Land-surface elevation 3,291 feet above NAVD88  
This well is completed in the Other aquifers (N9999OTHER) national aquifer.  
This well is completed in the Alluvium, Bolson Deposits and Other Surface  
Deposits (110AVMB) local aquifer.

Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)

Date	Time	<sup>?</sup> Water-level date-time accuracy	<sup>?</sup> Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	<sup>?</sup> Status	<sup>?</sup> Method of measurement	<sup>?</sup> Measuring agency	<sup>?</sup> Source of measurement	<sup>?</sup> Water-level approval status
2001											
2001-02-27		D	62610		3164.98	NGVD29	1	S			A
2001-02-27		D	62611		3166.56	NAVD88	1	S			A
2001-02-27		D	72019	124.44			1	S			A





## APPENDIX B

### Photographic Log

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### Photographic Log

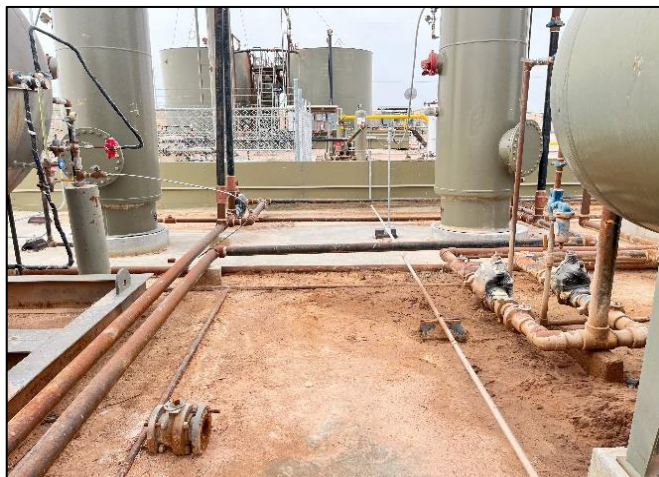
BTA Oil Producers, LLC  
Mesa 8105 #9, 11, 13, 18 Tank Battery  
Incident Number nRM2013640481



Photograph: 1 Date: 6/30/2023  
Description: Containment associated with release  
View: Northwest



Photograph: 2 Date: 7/5/2023  
Description: South side of containment deemed to be in good condition, facing west.



Photograph: 3 Date: 7/5/2023  
Description: Liner west of Mesa 18H separator  
View: South



Photograph: 4 Date: 7/5/2023  
Description: Eastern side of containment  
View: North



## 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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July 03, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA 8105 #9,11,13,18 TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 06/30/23 11:40.

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

Received:	06/30/2023	Sampling Date:	06/30/2023
Reported:	07/03/2023	Sampling Type:	Soil
Project Name:	MESA 8105 #9,11,13,18 TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012066	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.06591,-103.62886 )		

**Sample ID: SS 01 0.5' (H233390-01)**

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	06/30/2023	ND	2.09	104	2.00	3.08	
Toluene*	<0.050	0.050	06/30/2023	ND	2.04	102	2.00	3.21	
Ethylbenzene*	<0.050	0.050	06/30/2023	ND	1.97	98.4	2.00	3.88	
Total Xylenes*	<0.150	0.150	06/30/2023	ND	5.92	98.6	6.00	4.92	
Total BTX	<0.300	0.300	06/30/2023	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/30/2023	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	06/30/2023	ND	164	81.9	200	1.89	
DRO >C10-C28*	<10.0	10.0	06/30/2023	ND	169	84.4	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	06/30/2023	ND					

Surrogate: 1-Chlorooctane 83.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.2 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/30/2023	Sampling Date:	06/30/2023
Reported:	07/03/2023	Sampling Type:	Soil
Project Name:	MESA 8105 #9,11,13,18 TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012066	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.06591,-103.62886 )		

**Sample ID: SS 02 0.5' (H233390-02)**

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	06/30/2023	ND	2.09	104	2.00	3.08		
Toluene*	<0.050	0.050	06/30/2023	ND	2.04	102	2.00	3.21		
Ethylbenzene*	<0.050	0.050	06/30/2023	ND	1.97	98.4	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/30/2023	ND	5.92	98.6	6.00	4.92		
Total BTEx	<0.300	0.300	06/30/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/30/2023	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	06/30/2023	ND	164	81.9	200	1.89	
DRO >C10-C28*	<10.0	10.0	06/30/2023	ND	169	84.4	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	06/30/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/30/2023	Sampling Date:	06/30/2023
Reported:	07/03/2023	Sampling Type:	Soil
Project Name:	MESA 8105 #9,11,13,18 TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012066	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.06591,-103.62886 )		

**Sample ID: SS 03 0.5' (H233390-03)**

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	06/30/2023	ND	2.09	104	2.00	3.08		
Toluene*	<0.050	0.050	06/30/2023	ND	2.04	102	2.00	3.21		
Ethylbenzene*	<0.050	0.050	06/30/2023	ND	1.97	98.4	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/30/2023	ND	5.92	98.6	6.00	4.92		
Total BTEx	<0.300	0.300	06/30/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/30/2023	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	06/30/2023	ND	164	81.9	200	1.89	
DRO >C10-C28*	<10.0	10.0	06/30/2023	ND	169	84.4	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	06/30/2023	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.4 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/30/2023	Sampling Date:	06/30/2023
Reported:	07/03/2023	Sampling Type:	Soil
Project Name:	MESA 8105 #9,11,13,18 TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012066	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.06591,-103.62886 )		

**Sample ID: SS 04 0.5' (H233390-04)**

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	06/30/2023	ND	2.09	104	2.00	3.08	
Toluene*	<0.050	0.050	06/30/2023	ND	2.04	102	2.00	3.21	
Ethylbenzene*	<0.050	0.050	06/30/2023	ND	1.97	98.4	2.00	3.88	
Total Xylenes*	<0.150	0.150	06/30/2023	ND	5.92	98.6	6.00	4.92	
Total BTEx	<0.300	0.300	06/30/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/30/2023	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	06/30/2023	ND	164	81.9	200	1.89	
DRO >C10-C28*	<10.0	10.0	06/30/2023	ND	169	84.4	200	3.31	
EXT DRO >C28-C36	<10.0	10.0	06/30/2023	ND					

Surrogate: 1-Chlorooctane 90.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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

---

Celey D. Keene, Lab Director/Quality Manager



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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>												
Project Manager: Hadlie Green				P.O. #:																
Address: 3122 Nat'l Parks Hwy				Company: BTA Oil																
City: Carlsbad State: NM Zip: 88220				Attn: Kelton Beaird																
Phone #: 432-557-8895 Fax #:				Address: 104 S Pecos St																
Project #: 03C2012066 Project Owner:				City: Midland																
Project Name: MESA 8105 #9, 11, 13, 18 TANK BATTERY				State: TX Zip: 79701																
Project Location: 32.06591, -103.62886				Phone #:																
Sampler Name: Meredith Roberts				Fax #:																
FOR LAB USE ONLY																				
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV	SAMPLING		BTEX Chlorides TPH									
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME
H233390																				
1	SS01	0.5'	G	1			X										X		4/30/23	0855
2	SS02	0.5'																		0900
3	SS03	0.5'																		0915
4	SS04	0.5'													0920					
NR																				

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

Relinquished By: <i>Phreaks</i>	Date: 6-30-23	Received By: <i>Meredith Roberts</i>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Time: 1140			All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	hgrecn@ensolum.com mroberts@ensolum.com
Time:			tmorrissey@ensolum.com
Delivered By: (Circle One)			REMARKS:
Sampler - UPS - Bus - Other:	Observed Temp. °C 3.6	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Incident #: nRM2013640481
	Corrected Temp. °C 3.0	CHECKED BY: (Initials) <i>TO</i>	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
			Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
			Observed Temp. °C Corrected Temp. °C

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



## APPENDIX D

### NMOCD Notifications

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**From:** [Enviro, OCD, EMNRD](#)  
**To:** [Hadlie Green](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)  
**Subject:** RE: [EXTERNAL] BTA - Containment Inspection - Mesa 8105 #9, 11, 13, 18 Tank Battery (Incident Number nRM2013640481)  
**Date:** Thursday, June 29, 2023 3:46:40 PM  
**Attachments:** [image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

---

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

Hadlie,

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

JH

**Jocelyn Harimon** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
1220 South St. Francis Drive | Santa Fe, NM 87505  
(505)469-2821 | [Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)  
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



---

**From:** Hadlie Green <[hgreen@ensolum.com](mailto:hgreen@ensolum.com)>  
**Sent:** Thursday, June 29, 2023 8:02 AM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>  
**Cc:** Tacoma Morrissey <[tmorrissey@ensolum.com](mailto:tmorrissey@ensolum.com)>; Kelton Beaird <[KBeaird@btaoil.com](mailto:KBeaird@btaoil.com)>  
**Subject:** [EXTERNAL] BTA - Containment Inspection - Mesa 8105 #9, 11, 13, 18 Tank Battery (Incident Number nRM2013640481)

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

To Whom It May Concern,

Below is an email notification for liner inspection at BTA Oil Producers, LLC (BTA) Mesa 8105 #9, 11, 13, 18 Tank Battery (Incident Number nRM2013640481) / Spill Date 5-12-2020. This is a notification that Ensolum is scheduled to inspect this lined containment on behalf of BTA on Wednesday, July 5, 2023. Please call with any questions or concerns.



GPS: 32.06591, -103.62886

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

**Ensolum, LLC**

in f 



APPENDIX E

Final C-141

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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	NRM2013640481
District RP	
Facility ID	
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)
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.06591° Longitude: -103.62886°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Mesa 8105 # 9, 11, 13, 18 Tank Battery	Site Type: Tank Battery
Date Release Discovered: 5/12/2020	API# (if applicable) Nearest well: Mesa 8015 JV-P #011H API #30-025-42847

Unit Letter	Section	Township	Range	County
N	1	26S	32E	Lea

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

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 45 BBL	Volume Recovered (bbls) 45 BBL
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 130 BBL	Volume Recovered (bbls) 130 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

The body of a dump valve on the Mesa 18H separator washed out. A total of 175 BBL fluid was released into the secondary containment of the Mesa 9/11/13/18 tank battery that included the Mesa 18H separator.

The volume was determined by measurement of the volume of fluid recovered by vacuum truck. The entire release was contained inside of secondary containment for the tank battery built for the production equipment and tanks for the Mesa 8105 #9, 11, 13, and 18 wells.

Form C-141

State of New Mexico  
Oil Conservation Division

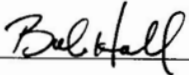
Page 2

Incident ID	NRM2013640481
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  The spill volume was greater than 25 BBL, which the NMOCD Rules define as a major release.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes. Notification is provided by email distribution of this C-141 Initial Response to NMOCD and BLM personnel overseeing the area.	

**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: <b>Bob Hall</b> Title: <b>Environmental Manager</b>  Signature: <u></u> Date: <b>5/13/2020</b>  email: <b>bhall@btaoil.com</b> Telephone: <b>432-682-3753</b>	
<b><u>OCD Only</u></b>  Received by: <u>Ramona Marcus</u> Date: <u>5/15/2020</u>	

Incident ID	NRM2013640481
District RP	
Facility ID	
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>51-100</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 type="checkbox"/> Yes <input checked="" 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.



State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	NRM2013640481
District RP	
Facility ID	
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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: Kelton Beaird Title: Environmental Manager

Signature:  Date: 8/3/2023

email: KBeaird@btaoil.com Telephone: 432-312-2203

**OCD Only**

Received by: Shelly Wells Date: 8/7/2023

Incident ID	NRM2013640481
District RP	
Facility ID	
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

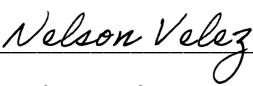
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: Kelton Beaird Title: Environmental Manager  
Signature:  Date: 8/3/2023  
email: KBeaird@btaoil.com Telephone: 432-312-2203

### OCD Only

Received by: Shelly Wells Date: 8/7/2023

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: 11/07/2023  
Printed Name: Nelson Velez Title: Environmental Specialist - Adv

**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 248785

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 248785
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Liner inspection approved. Release resolved.	11/7/2023