



November 30, 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: Revised Closure Request
Mesa B #2 SWD
Incident Number NOY1826826475
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Revised Closure Request* to document assessment, delineation, and soil sampling activities performed at the Mesa B #2 SWD (Site). The purpose of the Site assessment, delineation, and soil sampling activities was to assess for the presence or absence of impacted soil resulting from a historical produced water release at the Site. Based on field observations, additional delineation activities, and soil sample laboratory analytical results, BTA is submitting this *Revised Closure Request*, requesting no further action for Incident Number NOY1826826475.

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 (32.05356°, -103.60563°) and is associated with oil and gas exploration and production operations on Private Land.

On September 11, 2018, internal corrosion in the pump vibration dampener caused the release of approximately 66 barrels (bbls) of produced water. The released fluids affected approximately 9,143 square feet of the well pad and flowed off-pad to the south along a dry drainage for approximately 300 feet. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 30 bbls of produced water were recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on September 20, 2018 and October 1, 2018 (revised). The release was assigned Remediation Permit Number (RP) Number 1RP-5202 and Incident Number NOY1826826475.

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 and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to

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groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04547, located at the Site. The well was drilled to a depth of 112 feet during July 2021 and groundwater was encountered at a depth of 89.5 feet bgs. Following determination of depth to groundwater, the well was plugged and abandoned following NMOSE procedures. The referenced well records are included in Appendix A. All wells used for depth to groundwater determination are depicted on Figure 1.

The closest continuously flowing or significant watercourse is greater than 300 feet from the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (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 applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

Between August 7 and November 21, 2023, Ensolum personnel were at the Site to evaluate the historical release extent based on information provided on the Form C-141, the documented release extent, and visual observations. No visible indications of the historical release were observed during the Site visit. Boreholes BH01 through BH05 were advanced via hand auger within the documented release extent to assess for the presence or absence of impacted soil resulting from the historical produced water release. Soil from the boreholes was field screened at 1-foot intervals for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix B. Discrete delineation soil samples were collected from the boreholes at depths ranging from 0.5 feet to 4 feet below ground surface (bgs). Additionally, assessment soil samples SS01 through SS06 were collected around the historical release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the surface release. The assessment and delineation 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 visits and a photographic log is included as Appendix C.

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

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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.

Laboratory analytical results for the delineation soil samples collected from boreholes BH01 through BH05, advanced within the historical release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Additionally, the final depth delineation sample from boreholes BH01 through BH05 provided vertical delineation of the release to below the most stringent Table I Closure Criteria. Laboratory analytical results for assessment soil samples SS01 through SS06, collected around the historical release extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and defined the lateral extent of the release. Based on the laboratory analytical results, no further remediation is required at this time. Laboratory analytical results are summarized in Table 1 and the complete analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the September 11, 2018, release of produced water. Laboratory analytical results for the assessment and delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Additionally, the release was laterally and vertically delineated to the most stringent Table I Closure Criteria. Based on laboratory analytical results, no further remediation is required at this time. However, soil on the well pad exceeding the reclamation requirements of NMAC 19.15.29.13.D (1) will be removed during plugging and abandonment of the well and final reclamation of the well pad.

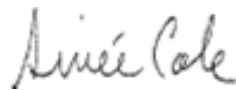
Initial response efforts and natural attenuation have mitigated impacts at this Site. Depth to groundwater is greater than 51 feet bgs and no sensitive receptors were identified near the release extent. BTA believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number NOY1826826475. Notifications submitted to the NMOCD are included in Appendix E and the final Form C-141 is included as Appendix F.

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

Sincerely,
Ensolum, LLC



Hadlie Green
Project Geologist



Aimee Cole
Senior Managing Scientist

cc: Kelton Beaird, BTA

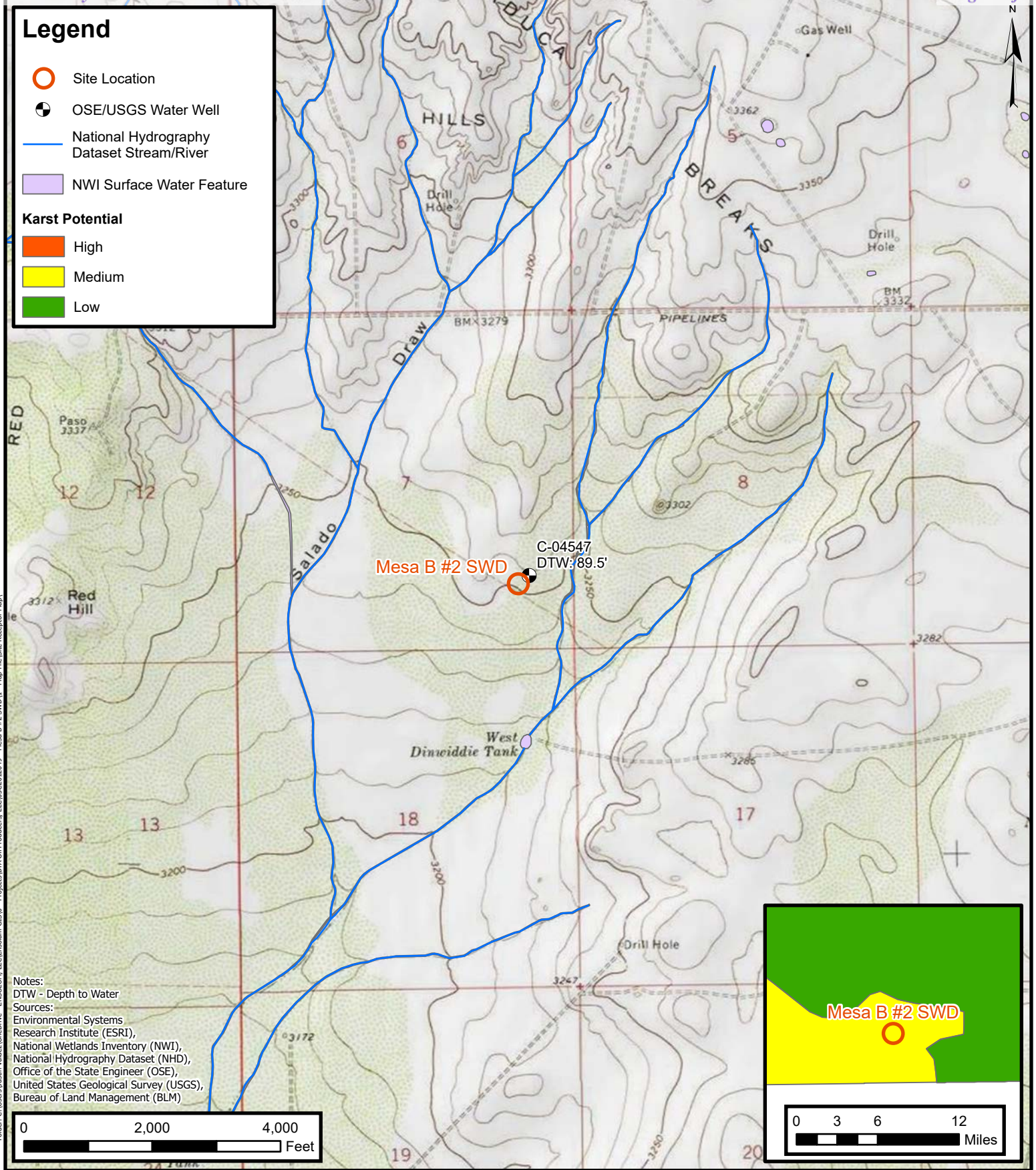
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Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Lithologic Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Form C-141

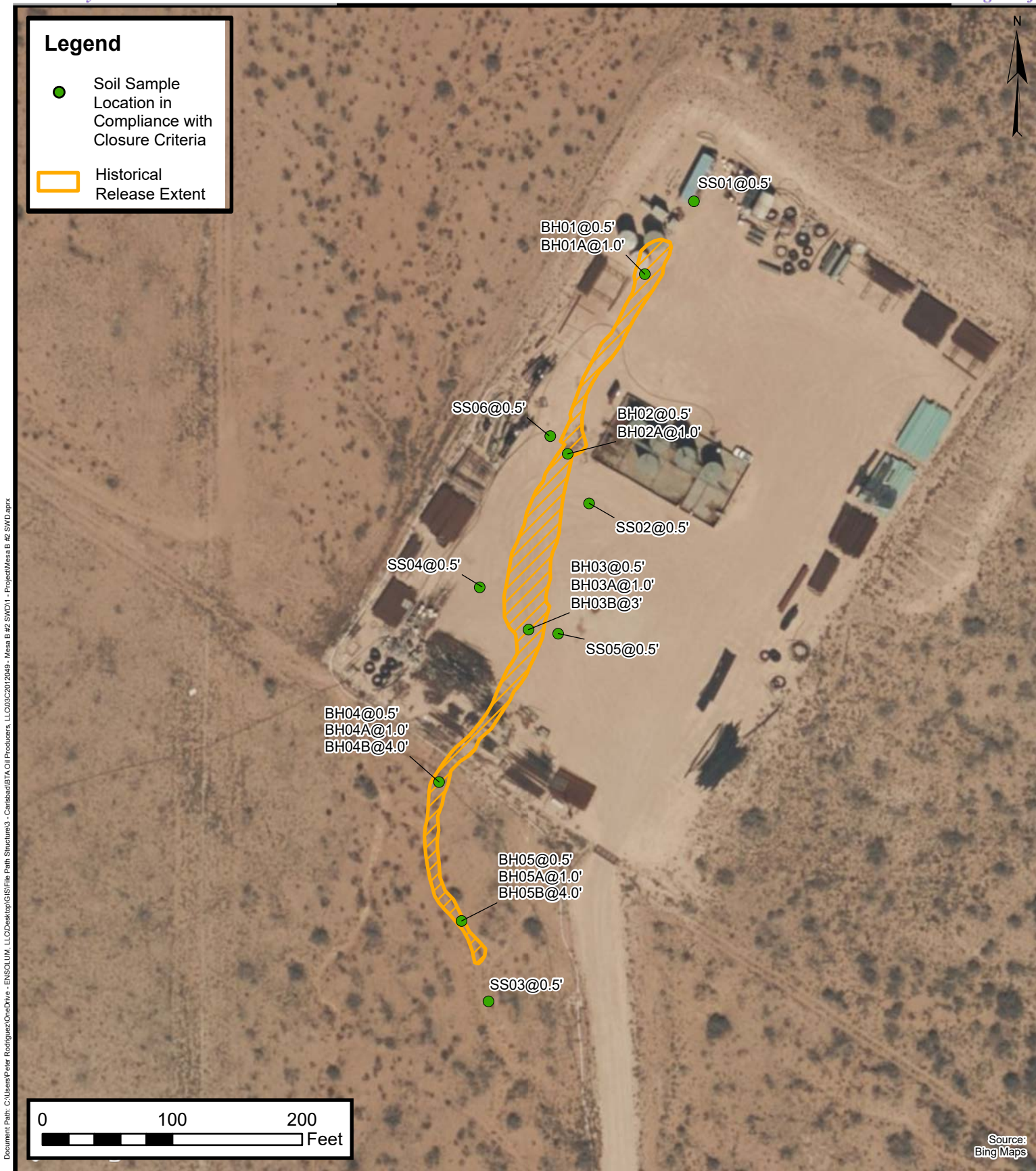


FIGURES



Site Receptor Map
BTA Oil Producers, LLC
Mesa B #2 SWD
Incident Number: NOY1826826475
Unit P, Section 7, Township 26 South, Range 33 East
Lea County, New Mexico

FIGURE
1



Delineation Soil Sample Locations

BTA Oil Producers, LLC
 Mesa B #2 SWD
 Incident Number: NOY182682647
 Unit P, Section 7, Township 26 South, Range 33 East
 Lea County, New Mexico

FIGURE
2



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Mesa B #2 SWD
 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										
BH01	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
BH01A	08/07/2023	1.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH02	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
BH02A	08/07/2023	1.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
BH03	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,440
BH03A	08/07/2023	1.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,170
BH03B	11/21/2023	3.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
BH04*	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH04A*	08/07/2023	1.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH04B	08/16/2023	4.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH05*	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH05A*	08/07/2023	1.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH05B	08/16/2023	4.0	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Assessment Soil Samples										
SS01	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS02	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS03*	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS04	08/07/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS05	11/16/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SS06	11/16/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240

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

NA: Not Analyzed

* Indicates soil sample was collected in an area to be reclaimed following remediation.



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00	
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	<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 30%;"> <p style="font-size: 1.2em; margin: 0;">Jack Atkins</p> <p style="margin: 0;">SIGNATURE OF DRILLER / PRINT SIGNEE NAME</p> </div> <div style="width: 30%; text-align: center;"> <p style="margin: 0;">Jackie D. Atkins</p> </div> <div style="width: 30%; text-align: right;"> <p style="margin: 0;">07/29/2021</p> <p style="margin: 0;">DATE</p> </div> </div>					

FOR OSE 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


Lithologic Soil Sampling Logs

								Sample Name: BH01		Date: 8/7/2023	
								Site Name: Mesa B #2 SWD			
								Incident Number: NOY1826826475			
								Job Number: 03C2012049			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Peter Van Patten		Method: Hand Auger	
Coordinates: 32.054233,-103.605478								Hole Diameter: 4"		Total Depth: 1'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. ND - Non Detect											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Damp	ND	0.0	N	BH01	0.5	0	CHHE	Caliche: Pinkish tan, no stain, no odor graded, no stain, no odor			
Damp	ND	0.0	N	BH01A	1	1	SP-SM	Sand: reddish brown, fine grain, poorly graded, no stain, no odor NOTE: Auger refusal @ 1 foot bgs			
TD @ 1 foot bgs											

 ENSOLUM								Sample Name: BH02		Date: 8/7/2023	
								Site Name: Mesa B #2 SWD			
								Incident Number: NOY1826826475			
								Job Number: 03C2012049			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Peter Van Patten		Method: Hand Auger	
Coordinates: 32.053855,-103.605676								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. ND - Non Detect											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Damp	845	0.0	N	BH02	0.5	0	CHHE	Caliche: Pinkish tan, no stain, no odor graded, no stain, no odor			
Damp	845	0.0	N	BH02A	1	1	SP-SM	Sand: reddish brown, fine grain, poorly graded, no stain, no odor			
Damp	1,271	0.0	N			2	SP-SM	SAA (same as above)			
NOTE: Auger refusal @ 2 feet bgs											
TD @ 2 feet bgs											

								Sample Name: BH03		Date: 8/7/23 & 11/21/23	
								Site Name: Mesa B #2 SWD			
								Incident Number: NOY1826826475			
								Job Number: 03C2012049			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Peter Van Patten		Method: Hand Auger	
Coordinates: 32.053484,-103.605779								Hole Diameter:		Total Depth: 3'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. ND - Non Detect											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Damp	1,943	0.0	N	BH03	0.5	0	CHHE	Caliche: Pinkish tan, no stain, no odor graded, no stain, no odor			
Damp	1,579	0.0	N	BH03A	1	1	SP-SM	Sand: reddish brown, fine grain, poorly graded, no stain, no odor			
Damp	<156.8	0.1	N	BH03B	3	3	SP-SM	SAA			
TD @ 3 feet bgs											

								Sample Name: BH04		Date: 8/7/2023			
								Site Name: Mesa B #2 SWD					
								Incident Number: NOY1826826475					
								Job Number: 03C2012049					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Peter Van Patten		Method: Hand Auger			
Coordinates: 32.053164,-103.606006								Hole Diameter:		Total Depth: 1'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. ND - Non Detect													
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions					
Damp	ND	0.0	N	BH04	0.5	0	SP-SM	Sand: reddish brown, fine grain, poorly graded, no stain, no odor					
Damp	ND	0.0	N	BH04A	1	1	SP-SM	SAA (same as above)					
Damp	ND	0.0	N			2	SP-SM	SAA: well sorted					
Damp	ND	0.0	N			3	SP-SM	SAA					
Damp	ND	0.0	N	BH04B	4	4	SP-SM	SAA					
TD @ 4 feet bgs													

								Sample Name: BH05		Date: 8/7/2023	
								Site Name: Mesa B #2 SWD			
								Incident Number: NOY1826826475			
								Job Number: 03C2012049			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Peter Van Patten		Method: Hand Auger	
Coordinates: 32.052869,-103.605955								Hole Diameter:		Total Depth: 1'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included. ND - Non Detect											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Damp	ND	0.0	N	BH05	0.5	0	SP-SM	Sand: reddish brown, fine grain, poorly graded, no stain, no odor			
Damp	ND	0.0	N	BH05A	1	1	SP-SM	SAA (same as above)			
Damp	ND	0.0	N			2	SP-SM	SAA: well sorted			
Damp	ND	0.0	N			3	SP-SM	SAA			
Damp	ND	0.0	N	BH05B	4	4	SP-SM	SAA			
TD @ 4 feet bgs											



APPENDIX C

Photographic Log



Photographic Log

BTA Oil Producers, LLC

Mesa B #2 SWD

Incident Number NOY1826826475



Photograph: 1 Date: 09/2018
Description: Historical Release Documentation

Photograph: 2 Date: 8/7/2023
Description: BH02 delineation activities
View: Northwest



Photograph: 3 Date: 8/7/2023
Description: BH03 delineation activities
View: Northeast

Photograph: 4 Date: 8/7/2023
Description: BH05 delineation activities
View: North



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

August 14, 2023

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

RE: MESA B #2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/07/23 14:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 01 .5' (H234181-01)

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529	
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97	
Total BTX	<0.300	0.300	08/10/2023	ND					

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

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/09/2023	ND	400	100	400	7.69	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 83.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 01 A 1' (H234181-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529	
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97	
Total BTEx	<0.300	0.300	08/10/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/09/2023	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 81.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 02 .5' (H234181-03)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529		
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97		
Total BTEX	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 83.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 02 A 1' (H234181-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529	
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478	
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945	
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97	
Total BTEX	<0.300	0.300	08/10/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 90.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/07/2023
 Reported: 08/14/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: BTA 32.0513169654,-103.6062430032

Sampling Date: 08/07/2023
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: BH 03 .5' (H234181-05)

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529		
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97		
Total BTEX	<0.300	0.300	08/10/2023	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	1440	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 78.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 03 A 1' (H234181-06)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529		
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97		
Total BTEx	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1170	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/07/2023
 Reported: 08/14/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: BTA 32.0513169654,-103.6062430032

Sampling Date: 08/07/2023
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: BH 04 .5' (H234181-07)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.07	104	2.00	0.529		
Toluene*	<0.050	0.050	08/10/2023	ND	1.99	99.7	2.00	0.478		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	0.945		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.99	99.8	6.00	1.97		
Total BTEx	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

Cardinal Laboratories

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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:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 04 A 1' (H234181-08)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEx	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 91.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 05 .5' (H234181-09)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEX	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 74.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/07/2023
 Reported: 08/14/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: BTA 32.0513169654,-103.6062430032

Sampling Date: 08/07/2023
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: BH 05 A 1' (H234181-10)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEx	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/11/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/11/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/11/2023	ND					

Surrogate: 1-Chlorooctane 82.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: SS 01 .5' (H234181-11)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEX	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	08/09/2023	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 89.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/07/2023	Sampling Date:	08/07/2023
Reported:	08/14/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	** (See Notes)
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: SS 02 .5' (H234181-12)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEx	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/09/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 83.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/07/2023
 Reported: 08/14/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: BTA 32.0513169654,-103.6062430032

Sampling Date: 08/07/2023
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: SS 03 .5' (H234181-13)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEx	<0.300	0.300	08/10/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/09/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	168	84.1	200	7.33	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	176	87.9	200	8.56	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 63.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 08/07/2023
 Reported: 08/14/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: BTA 32.0513169654,-103.6062430032

Sampling Date: 08/07/2023
 Sampling Type: Soil
 Sampling Condition: ** (See Notes)
 Sample Received By: Tamara Oldaker

Sample ID: SS 04 .5' (H234181-14)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/10/2023	ND	2.01	101	2.00	2.27		
Toluene*	<0.050	0.050	08/10/2023	ND	1.92	95.8	2.00	1.39		
Ethylbenzene*	<0.050	0.050	08/10/2023	ND	1.92	96.2	2.00	1.43		
Total Xylenes*	<0.150	0.150	08/10/2023	ND	5.68	94.6	6.00	0.600		
Total BTEX	<0.300	0.300	08/10/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/09/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/09/2023	ND	173	86.7	200	0.0963	
DRO >C10-C28*	<10.0	10.0	08/09/2023	ND	182	90.8	200	1.16	
EXT DRO >C28-C36	<10.0	10.0	08/09/2023	ND					

Surrogate: 1-Chlorooctane 81.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Enscium, LLC Project Manager: Hadlie Green Address: 601 N. Maricopa St #400 City: Midland State: TX Zip: 79701 Phone #: 432-557-8895 Fax #: Project #: 03C2012019 Project Owner: Project Name: Mesa B #2 SWD Project Location: 32.0513169654, -103.6062430032 Sampler Name: Peter Van Patten		BILL TO P.O. #: Company: BTA O-1 Attn: Kelton Beard Address: 104 S. Pecos St City: Midland State: TX Zip: 79701 Phone #: 432-312-2203 Fax #:		ANALYSIS REQUEST			
FOR LAB USE ONLY		Matrix <input type="checkbox"/> GROUNDWATER <input type="checkbox"/> WASTEWATER <input type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER:		Preserv <input checked="" type="checkbox"/> ACID/BASE <input type="checkbox"/> ICE / COOL <input type="checkbox"/> OTHER:		SAMPLING	
Lab I.D. H234181	Sample I.D. 1 B401 2 B401A 3 B402 4 B402A 5 B403 6 B403A 7 B404 8 B404A 9 B405 10 B405A	Depth (ft) .5 1 .5 1 .5 1 .5 1 .5 1	(G)RAB OR (C)OMP. C C C C C C C C C C	# CONTAINERS 1 1 1 1 1 1 1 1 1 1	DATE 8-7-23	TIME 900 915 930 1000 1030 1040 1055 1105 1120 1130	TPH BTEX Chlorides
Relinquished By: [Signature]		Date: 8-7-23		Received By: [Signature]		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:	
Relinquished By: [Signature]		Date: 1405		Received By: [Signature]		REMARKS: hgreen@enscium.com Cooler Temp below 45 @ 7:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 35.1		Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		CHECKED BY: (Initials)	
Turnaround Time:		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Bacteria (only) <input type="checkbox"/> Sample Condition Cool <input type="checkbox"/> Intact <input type="checkbox"/> 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



ANALYSIS REQUEST

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



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August 22, 2023

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

RE: MESA B #2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/16/23 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	08/16/2023	Sampling Date:	08/16/2023
Reported:	08/22/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	Cool & Intact
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 04 B 4' (H234427-01)

BTX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2023	ND	2.03	102	2.00	3.35	
Toluene*	<0.050	0.050	08/17/2023	ND	1.92	95.8	2.00	2.88	
Ethylbenzene*	<0.050	0.050	08/17/2023	ND	2.00	99.8	2.00	2.43	
Total Xylenes*	<0.150	0.150	08/17/2023	ND	5.92	98.7	6.00	2.77	
Total BTX	<0.300	0.300	08/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/17/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/17/2023	ND	197	98.3	200	5.17	
DRO >C10-C28*	<10.0	10.0	08/17/2023	ND	185	92.4	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	08/17/2023	ND					

Surrogate: 1-Chlorooctane 72.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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:	08/16/2023	Sampling Date:	08/16/2023
Reported:	08/22/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD	Sampling Condition:	Cool & Intact
Project Number:	03C2012049	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.0513169654,-103.6062430032		

Sample ID: BH 05 B 4' (H234427-02)

BTEx 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2023	ND	2.03	102	2.00	3.35	
Toluene*	<0.050	0.050	08/17/2023	ND	1.92	95.8	2.00	2.88	
Ethylbenzene*	<0.050	0.050	08/17/2023	ND	2.00	99.8	2.00	2.43	
Total Xylenes*	<0.150	0.150	08/17/2023	ND	5.92	98.7	6.00	2.77	
Total BTEX	<0.300	0.300	08/17/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/17/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/17/2023	ND	197	98.3	200	5.17	
DRO >C10-C28*	<10.0	10.0	08/17/2023	ND	185	92.4	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	08/17/2023	ND					

Surrogate: 1-Chlorooctane 69.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.9 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC Project Manager: <i>Hadlie Green</i> Address: 601 N. Marterfield St. STE 400 City: Midland State: TX Zip: 79701 Phone #: 432-557-8095 Fax #: Project #: 03C2012049 Project Owner: Ensolum Project Name: MESA B#2 SWD Project Location:				BILL TO P.O. #: 03C2012049 Company: BTA Attn: Kellon Beard Address: 1045 Pecos City: Midland State: TX Zip: 79701 Phone #: Fax #:				ANALYSIS REQUEST									
Sample Name: <i>Hadlie Green</i> <small>FOR LAB USE ONLY</small>		Lab I.D.		Sample I.D.		Sample Depth (feet)		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV SAMPLING		DATE		TIME		TPH 9015 BTEX 8021 CHLORIDE 4500	
Relinquished By: <i>Hadlie Green</i> Date: 9-16-23 Time: 1230 Received By: <i>Juanita Alcantara</i> Date: 9-16-23 Time: 1025		Delivered By: (Circle One) UPS - Bus - Other:		Observed Temp. °C 38 Corrected Temp. °C		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: <i>JP</i> (Initials)		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 Calibration Factor 0.3°C		Bacteria (only) Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Sample Condition Observed Temp. °C Corrected Temp. °C			
REMARKS:																	



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

November 20, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA B #2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 11/16/23 9:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 11/16/2023
 Reported: 11/20/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: 32.05356 , -103.60563

Sampling Date: 11/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: SS 05 0.5 (H236265-01)

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	11/17/2023	ND	1.98	99.1	2.00	1.65		
Toluene*	<0.050	0.050	11/17/2023	ND	1.92	96.2	2.00	6.42		
Ethylbenzene*	<0.050	0.050	11/17/2023	ND	2.02	101	2.00	7.60		
Total Xylenes*	<0.150	0.150	11/17/2023	ND	6.11	102	6.00	8.22		
Total BTX	<0.300	0.300	11/17/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	11/17/2023	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/17/2023	ND	202	101	200	1.37	
DRO >C10-C28*	<10.0	10.0	11/17/2023	ND	188	94.2	200	0.739	
EXT DRO >C28-C36	<10.0	10.0	11/17/2023	ND					

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.5 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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



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

Analytical Results For:

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

Received: 11/16/2023
 Reported: 11/20/2023
 Project Name: MESA B #2 SWD
 Project Number: 03C2012049
 Project Location: 32.05356 , -103.60563

Sampling Date: 11/10/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: SS 06 0.5 (H236265-02)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	11/17/2023	ND	1.98	99.1	2.00	1.65		
Toluene*	<0.050	0.050	11/17/2023	ND	1.92	96.2	2.00	6.42		
Ethylbenzene*	<0.050	0.050	11/17/2023	ND	2.02	101	2.00	7.60		
Total Xylenes*	<0.150	0.150	11/17/2023	ND	6.11	102	6.00	8.22		
Total BTEX	<0.300	0.300	11/17/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	11/17/2023	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/17/2023	ND	202	101	200	1.37	
DRO >C10-C28*	<10.0	10.0	11/17/2023	ND	188	94.2	200	0.739	
EXT DRO >C28-C36	<10.0	10.0	11/17/2023	ND					

Surrogate: 1-Chlorooctane 77.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.5 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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

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

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

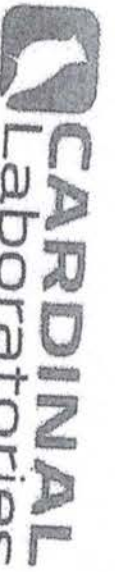
Cardinal Laboratories

*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Aimee Cole

Address: 3122 National Parks Hwy
City: Carlsbad

Phone #: 720-384-7365 State: NM Zip: 88220

Project #: 03C012049 Fax #: Project Owner:

Project Name: Mesa B #2 SWD

Project Location: 32.05356, -103.60563

Sampler Name: Peter Van Taffer

FOR LAB USE ONLY

BILL TO

P.O. #:

Company: BTA Oil

Attn: Kelton Baird

Address: 104 S. Ross St

City: Midland

State: TX Zip: 79701

Phone #:

ANALYSIS REQUEST

Lab I.D. Sample I.D.

Depth (feet)

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

TPH

BTEX

Chlorides

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Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Relinquished By:

Verbal Result: ☐ Yes ☒ No Add'l Phone #:
All Results are emailed. Please provide Email address:
a.cole@ensolum.com, hgran@ensolum.com

REMARKS:

Turnaround Time: Standard ☒ Rush ☐
Thermometer ID: #440
Correction Factor: 0.0°C #140

Bacteria (only) Sample Condition
Cool Intact ☐ Yes ☐ No
Corrected Temp. °C



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

November 27, 2023

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

RE: MESA B #2 SWD/NOY 1826826475

Enclosed are the results of analyses for samples received by the laboratory on 11/21/23 13:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	11/21/2023	Sampling Date:	11/21/2023
Reported:	11/27/2023	Sampling Type:	Soil
Project Name:	MESA B #2 SWD/NOY 1826826475	Sampling Condition:	Cool & Intact
Project Number:	03C2012049	Sample Received By:	Dionica Hinojos
Project Location:	BTA - LEA COUNTY, NM		

Sample ID: BH 03 B 3' (H236341-01)

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	11/22/2023	ND	2.00	100	2.00	2.17	
Toluene*	<0.050	0.050	11/22/2023	ND	2.10	105	2.00	2.70	
Ethylbenzene*	<0.050	0.050	11/22/2023	ND	2.11	106	2.00	2.18	
Total Xylenes*	<0.150	0.150	11/22/2023	ND	6.35	106	6.00	2.67	
Total BTX	<0.300	0.300	11/22/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/22/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/22/2023	ND	216	108	200	3.21	
DRO >C10-C28*	<10.0	10.0	11/22/2023	ND	203	101	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	11/22/2023	ND					

Surrogate: 1-Chlorooctane 73.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.8 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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



APPENDIX E

NMOCD Notifications

From: [Wells, Shelly, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Maxwell, Ashley, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Hall, Brittany, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 08/07/2023
Date: Thursday, August 3, 2023 2:47:10 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Hi Hadlie,

Notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

Thank you,

Shelly

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

From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, August 3, 2023 1:36 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kelton Beaird <KBeaird@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 08/07/2023

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 the week of August 7, 2023.

- Mesa B #2 SWD / NOY1826826475
 - Sampling Date: 8/7-8/2023 @ 9:00 AM MST

- Mesa #2H Tank Battery / NRM2026945362
 - Sampling Date: 8/8/2023 @ 9:00 AM MST
- Vaca Draw 9418 JV-P 001 / nCH1835540209
 - Sampling Date: 8/10-11/2023 @ 9:00 AM MST
- Gem 4, 5, 7, 10 Battery, 8705 JV-P / NCH1903263128
 - Sampling Date: 8/10-11/2023 @ 9:00 AM MST
- Mesa 8105 JVP #006H / nOY1814228433
 - Sampling Date: 8/11/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



From: [Wells, Shelly, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Maxwell, Ashley, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)
Date: Wednesday, November 15, 2023 12:56:07 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Hi Hadlie,

The OCD has received your notification. Notification requirements are **two full business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file. If less than 2 days' notice continues to be given, this variance will not be approved.

Thank you,

Shelly

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

From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, November 15, 2023 1:47 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)

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 location on Friday, November 17, 2023.

- Mesa B #2 SWD / NOY1826826475

- Sampling Date: 11/17/2023 @ 9:00 AM MST
- GPS: 32.05356, -103.60563

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



From: [Wells, Shelly, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Maxwell, Ashley, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)
Date: Friday, November 17, 2023 9:34:21 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Hi Hadlie,

Thank you for providing the 2 days business notice of the update. No variance is needed. The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

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

From: Hadlie Green <hgreen@ensolum.com>
Sent: Friday, November 17, 2023 7:59 AM
To: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)

Good morning Shelly,

Site activities at the Mesa B #2 SWD have been delayed. With your approval, BTA requests a confirmation sampling date variance of Tuesday, November 21, 2023.

- Mesa B #2 SWD / NOY1826826475
 - Sampling Date: 11/17/2023 @ 9:00 AM MST

- GPS: 32.05356, -103.60563

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC

in f 

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>

Sent: Wednesday, November 15, 2023 2:56 PM

To: Hadlie Green <hgreen@ensolum.com>

Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Maxwell, Ashley, EMNRD <Ashley.Maxwell@emnrd.nm.gov>

Subject: RE: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)

[**EXTERNAL EMAIL **]

Hi Hadlie,

The OCD has received your notification. Notification requirements are **two full business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file. If less than 2 days' notice continues to be given, this variance will not be approved.

Thank you,

Shelly

[Shelly Wells](#) * Environmental Specialist-Advanced

Environmental Bureau

EMNRD-Oil Conservation Division

1220 S. St. Francis Drive | Santa Fe, NM 87505

(505)469-7520 | Shelly.Wells@emnrd.nm.gov

<http://www.emnrd.state.nm.us/OCD/>

From: Hadlie Green <hgreen@ensolum.com>

Sent: Wednesday, November 15, 2023 1:47 PM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Subject: [EXTERNAL] BTA - Sampling Notification - Mesa B #2 SWD (Incident Number NOY1826826475)

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 location on Friday, November 17, 2023.

- Mesa B #2 SWD / NOY1826826475
 - Sampling Date: 11/17/2023 @ 9:00 AM MST
 - GPS: 32.05356, -103.60563

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC

in f 



APPENDIX F

Form C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

Incident ID	NOY1826826475
District RP	1RP-5202
Facility ID	
Application ID	pOY1826825549

Release Notification

Responsible Party

Responsible Party BTA Oil Producers	OGRID 260297
Contact Name John Allen	Contact Telephone 432-701-5808
Contact email jallen@btaoil.com	Incident # NOY1826826475
Contact mailing address 104 S. Pecos St. Midland, TX 79701	

Location of Release Source

Latitude: 32.053884 Longitude: -103.605645

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Mesa B #2 SWD	Site Type: SWD Battery
Date Release Discovered: 9/11/18	API# (if applicable): 30-025-42462

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

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Charlotte W. Schuman Living Trust of October 5, 1988
Karlyn S. Doyle and Charlotte W. Schuman, Co-Trustees, 2121 Yorktown, #305, Tulsa, OK 74114, 918-747-7703)

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): Area of spill on pad (9,143 ft ²) * Average depth of spill (0.25 ft) * Soil porosity (0.15) + Length of spill off pad (302 ft) * Average width of spill off pad (0.6 ft) * Depth of spill off pad (1 ft) * Soil porosity (0.2) = 373.0624 ft ³ = 66.4 bbl	Volume Recovered (bbls): 30
	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

Cause of Release:

Internal corrosion in pump vibration dampener caused salt water to spray produced water to spray onto the well pad. Some flowed off-site about 300 feet.

Form C-141

State of New Mexico
Oil Conservation Division

Page 2

Incident ID	NOY1826826475
District RP	1RP-5202
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? Over 25 bbl
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No	

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

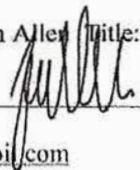
- ☒ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why: All free produced water has been removed so there no possibility that human health will be affected or further damage to the environment. Released materials stopped spreading when the pump was shut down and the leak stopped.

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: John Allen Title: Environmental Manager

Signature: 

Date: 10/1/18

email: jallen@btaoi.com

Telephone: 432-701-5808

OCD Only

Received by: _____ Date: _____

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	NOY1826826475
District RP	1RP-5202
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?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

Oil Conservation Division

Incident ID	NOY1826826475
District RP	1RP-5202
Facility ID	
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: Kelton BeairdTitle: EnvironmentalSignature: 

Manager _____ Date: _____

email: KBeaird@btaoil.com11/30/2023Telephone: 432-312-2203**OCD Only**

Received by: _____

Date: _____

Incident ID	NOY1826826475
District RP	1RP-5202
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: 11/30/2023
email: KBeaird@btaoil.com Telephone: 432-312-2203

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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

QUESTIONS

Action 292635

QUESTIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	292635
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Prerequisites	
Incident ID (n#)	nOY1826826475
Incident Name	NOY1826826475 MESA B#2 SWD @ 30-025-42462
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-42462] MESA B SWD 8115 JV-P #002

Location of Release Source

Please answer all the questions in this group.

Site Name	MESA B#2 SWD
Date Release Discovered	09/11/2018
Surface Owner	Private

Incident Details

Please answer all the questions in this group.

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

Nature and Volume of Release

Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Pump Produced Water Released: 60 BBL Recovered: 30 BBL Lost: 30 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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

District IV

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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

QUESTIONS, Page 2

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	292635
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: BTA ENV Title: Environmental Manager Email: kbeaird@btaoil.com Date: 12/08/2023
--	--

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

QUESTIONS, Page 3

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number: 292635
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 75 and 100 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

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

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

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

Chloride (EPA 300.0 or SM4500 Cl B)	1440
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	07/18/2023
On what date will (or did) the final sampling or liner inspection occur	11/21/2023
On what date will (or was) the remediation complete(d)	11/21/2023
What is the estimated surface area (in square feet) that will be reclaimed	15618
What is the estimated volume (in cubic yards) that will be reclaimed	1220
What is the estimated surface area (in square feet) that will be remediated	0
What is the estimated volume (in cubic yards) that will be remediated	0

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

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

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QUESTIONS, Page 4

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	292635
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Remediation Plan (continued)**

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

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	No
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	Delineation completed. No impacts identified. All samples meet Closure Criteria.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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

I hereby agree and sign off to the above statement	Name: BTA ENV Title: Environmental Manager Email: kbeaird@btaoil.com Date: 12/08/2023
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 5

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	292635
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

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

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QUESTIONS, Page 6

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	292635
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	292654
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	11/17/2023
What was the (estimated) number of samples that were to be gathered	5
What was the sampling surface area in square feet	11700

Remediation Closure Request

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

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	0
What was the total volume (cubic yards) remediated	0
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	0
What was the total volume (in cubic yards) reclaimed	0
Summarize any additional remediation activities not included by answers (above)	Delineation only. No reclamation required at this time.

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: BTA ENV Title: Environmental Manager Email: kbeaird@btaoil.com Date: 12/08/2023
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QUESTIONS, Page 7

Action 292635

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 292635
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 292635

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	292635
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation Closure approved. All areas not reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as practical. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed. A report for reclamation and revegetation will need to be submitted and approved prior to this incident receiving the final status of "Restoration Complete"	12/15/2023