



July 19, 2023

New Mexico Oil Conservation Division

New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request
Mesa Dolphin CTB
Incident Number nAPP2313555368
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, delineation, and soil sampling activities performed at the Mesa Dolphin CTB (Site). The purpose of the Site assessment, delineation, and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water within the lined containment and overspray onto the well pad at the Site. Based on field observations, delineation activities, and soil sample laboratory analytical results, BTA is submitting this *Closure Request*, describing Site assessment and delineation activities that have occurred and requesting no further action and closure for Incident Number nAPP2313555368.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 11, Township 26 South, Range 32 East, in Lea County, New Mexico (32.062833°, -103.652055°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On April 27, 2023, vibration in a water poly line connecting the heater treater and gun barrel caused the poly line to rupture and release approximately 1,330 barrels (bbls) of produced water into a lined secondary containment and overspray onto the well pad. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 1,326 bbls of produced water were recovered. BTA reported the release immediately via email to the New Mexico Oil Conservation Division (NMOCD) and submitted a *Release Notification Form C-141* (Form C-141) on May 26, 2023. The release was assigned Incident Number nAPP2313555368.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized for applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater is New Mexico Office of the State Engineer (NMOSE) soil boring C-04549-POD 1, drilled approximately 580 feet northwest of the Site. The soil boring was drilled to a total depth of 103 feet bgs on July 14, 2021. Groundwater was not encountered during drilling activities and following a waiting period of at least 72 hours to allow for the slow infill of groundwater, the soil boring was backfilled using drill cuttings and hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 673 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

LINER INTEGRITY INSPECTION AND DELINEATION ACTIVITIES

A 48-hour advance notice of the liner inspection was provided via email to the NMOCD District I office on May 5, 2023. A liner integrity inspection was conducted by Ensolum personnel on May 12, 2023. Upon inspection, the liner was determined to be insufficient. One borehole (BH01) was advanced via hand auger near the location of the tear in the liner to assess the vertical extent of potentially impacted soil. Two discrete delineation soil samples (BH01/BH01A) were collected from the borehole at depths of 0.5 feet and 1-foot bgs, respectively. Three boreholes (SS05, SS06, and SS11) were collected within the overspray extent. Two discrete delineation soil samples were collected from the boreholes at depths ranging from 0.5 feet to 2 feet bgs. Additionally, eight delineation soil samples (SS01 through SS04 and SS07 through SS10) were collected around the lined containment and overspray extent at 0.5 feet bgs to confirm the lateral release extent.

Soil from the delineation samples was field screened for screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations from the borehole were documented on a lithologic/sampling log, which is included as Appendix B. Borehole BH01 was backfilled with the soil removed and BTA repaired the tear in the liner following soil sampling activities. Delineation soil samples are depicted on Figure 2. Photographic documentation was completed during the Site visit and is included in 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 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

Laboratory analytical results for delineation soil samples BH01 and BH01A, collected at depths of 0.5 feet and 1-foot bgs, respectively, indicated all COC concentrations were compliant with the Closure Criteria and successfully defined the vertical extent of the release within the lined containment. Laboratory analytical results for boreholes SS05, SS06, and SS11, collected within the overspray extent at depths ranging from 0.5 feet to 2 feet bgs, indicated all COC concentrations were compliant with the Closure Criteria. Laboratory analytical results for delineation soil samples SS01 through SS04 and SS07 through SS10, collected at 0.5 feet bgs around the lined containment and overspray extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to address the April 27, 2023, produced water release within the lined containment and overspray onto the surrounding well pad. Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence of absence of impacted soil. Laboratory analytical results for delineation soil samples, collected directly beneath the lined containment and within the overspray extent, indicated all COCs were compliant with the Site Closure Criteria. Based on soil sample analytical results, impacted soil is not present at the Site and as a result, no further remediation was required.

Initial response efforts have mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2313555368. Notifications submitted to the NMOCD are included in Appendix E and the final Form C-141 is included in Appendix F.

BTA Oil Producers, LLC
Closure Request
Mesa Dolphin CTB

July 19, 2023
Page 4

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



Daniel R. Moir, PG
Senior Managing Geologist

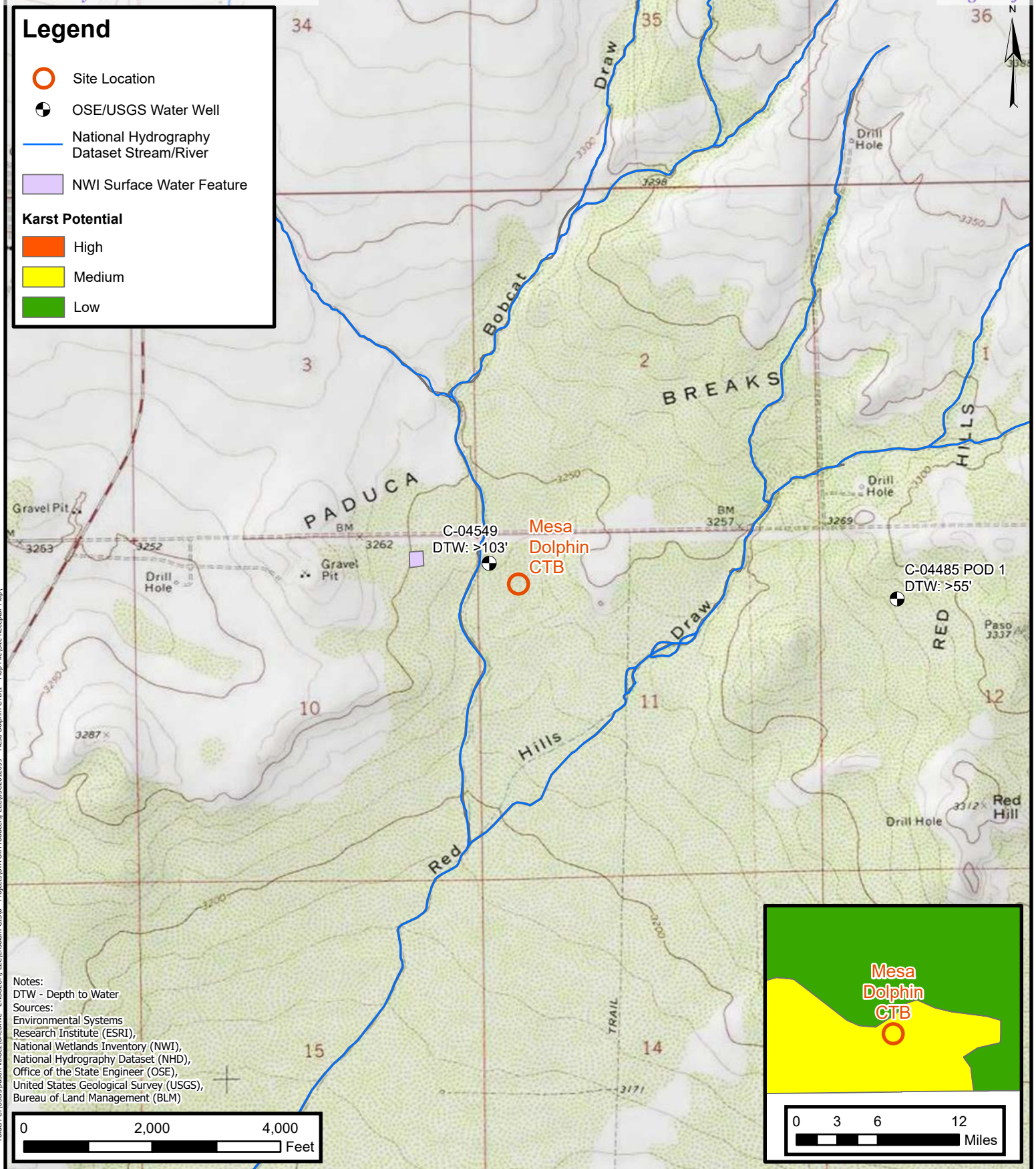
cc: Kelton Beaird, BTA
Nathan Sirgo, BTA
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	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	Final C-141



FIGURES



Site Receptor Map

BTA Oil Producers, LLC
Mesa Dolphin CTB
Incident Number: nAPP2313555368
Unit D, Sec 11, T26S, R32E
Lea County, New Mexico

FIGURE

1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Lined Containment
- ▨ Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 25 50
Feet

Sources: Environmental Systems Research Institute (ESRI)



Delineation Soil Sample Locations

BTA Oil Producers, LLC
Mesa Dolphin CTB
Incident Number: nAPP2313555368
Unit D, Sec 11, T26S, R32E
Lea County, New Mexico

FIGURE
2



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Mesa Dolphin CTB
 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	20,000
Assessment Soil Samples										
SS01	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
SS02	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
SS03	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SS04	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS05	05/12/2023	0.5	<0.050	<0.300	<10.0	40.2	<10.0	40.2	40.2	4,560
SS05A	06/01/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS06	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	784
SS06A	06/01/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS07	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
SS08	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	528
SS09	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SS10	05/12/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS11	06/01/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS11A	06/01/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH01	05/25/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
BH01A	05/25/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DJT AUG 2 2021 PM 4:45

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4549			
	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 32	MINUTES 4	SECONDS 40.92	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
	LONGITUDE 103	37	53.68	W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW NW NW Sec. 11 T26S R32E								
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 07/14/2021		DRILLING ENDED 07/14/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 103	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	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) FROM TO		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)
	0 103		±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		

FOR OSE INTERNAL USE

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

FILE NO. C-4549	POD NO. 1	TRN NO. 698318
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA -

PAGE 1 OF 2

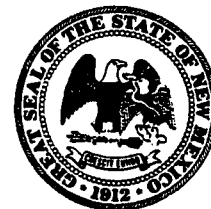
OSE DTI AUG 2 2021 PM4:45

1. HYDROGEOLOGIC LOG OF WELL

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4549	POD NO. 1	TRN NO. 698318	
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA	PAGE 2 OF 2



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4549-POD1

Well owner: BTA Oil Producers

Phone No.: 432.312.2203

Mailing address: 104 S. Pecos St.

City: Midland

State: Texas

Zip code: 79701

II. WELL PLUGGING INFORMATION:

- 1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)
- 2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/23
- 3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Shane Eldridge, Cameron Pruitt, Carmelo Trevino
- 4) Date well plugging began: 07/19/2021 Date well plugging concluded: 07/19/2021
- 5) GPS Well Location: Latitude: 32 deg, 4 min, 40.92 sec
Longitude: 103 deg, 37 min, 53.68 sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: 103 ft below ground level (bgl),
by the following manner: weighted tape
- 7) Static water level measured at initiation of plugging: n/a ft bgl
- 8) Date well plugging plan of operations was approved by the State Engineer: 6/24/2021
- 9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

- For each interval plugged, describe within the following columns:**

Released to Imaging: 10/13/2023 1:46:23 PM



USGS Home
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National Water Information System: Web Interface

USGS Water Resources

Data Category:
Groundwater

Geographic Area:
United States

GO

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Groundwater levels for the Nation

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Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 320424103415401

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 320424103415401 26S.31E.01.421322

Eddy County, New Mexico
Latitude 32°04'24", Longitude 103°41'54" NAD27
Land-surface elevation 3,294 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement
1983-01-26			D	62610	3002.25	NGVD29	1		Z	
1983-01-26			D	62611	3003.88	NAVD88	1		Z	
1983-01-26			D	72019	290.12		1		Z	
1983-02-14			D	62610	3002.95	NGVD29	1		Z	
1983-02-14			D	62611	3004.58	NAVD88	1		Z	
1983-02-14			D	72019	289.42		1		Z	
1987-10-21			D	62610	3002.47	NGVD29	1		Z	
1987-10-21			D	62611	3004.10	NAVD88	1		Z	
1987-10-21			D	72019	289.90		1		Z	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface

Section	Code	Description
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

[Questions about sites/data?](#)

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2023-05-19 14:45:48 EDT


0.27 0.24 nadww02








APPENDIX B

Lithologic Soil Sampling Logs

								Sample Name: BH01		Date: 5/25/2023	
								Site Name: Mesa Dolphin CTB			
								Incident Number: nAPP2313555368			
								Job Number: 03C2012039			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Hand Auger	
Coordinates: 32.063222, -103.652320								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.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	21.8	0.1		BH01	0.5	0.5	SP/CCHE	0-05': SAND, brown color, with calchie dry, poorly graded, fine-medium grain, no stain and odor			
D	212.8	0.2		BH01	1	1	SP/CCHE	0.5-1': Same as above (SAA)			
TD @ 1 FOOT BGS											

								Sample Name: SS05		Date: 5/25/2023	
								Site Name: Mesa Dolphin CTB			
								Incident Number: nAPP2313555368			
								Job Number: 03C2012039			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Hand Auger	
Coordinates: 32062853, -103.652040								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.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	<173	0		SS05	1	1	SP	0-1': SAND, brown color, dry, poorly graded, fine-medium grain, no stain and odor 1-2': Same as above (SAA)			
D	<173	0.1		SS05	2	2	SP				
TD @ 4 FEET BGS											

								Sample Name: SS06		Date: 5/25/2023	
								Site Name: Mesa Dolphin CTB			
								Incident Number: nAPP2313555368			
								Job Number: 03C2012039			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Hand Auger	
Coordinates: 32.062774, -103.652107								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.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	<173	0		SS06	1	1	SP	0-1': SAND, brown color, dry, poorly graded, fine-medium grain, no stain and odor 1-2': Same as above (SAA)			
D	<173	0.2		SS06	2	2	SP				
TD @ 4 FEET BGS											

								Sample Name: SS11		Date: 5/25/2023	
								Site Name: Mesa Dolphin CTB			
								Incident Number: nAPP2313555368			
								Job Number:			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: MR		Method: Hand Auger	
Coordinates: 32.062891, -103.651990								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. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	<173	0		SS07	1	0 1	SP	0-1': SAND, brown color, dry, poorly graded, fine-medium grain, no stain and odor			
TD @ 1 FOOT BGS											



APPENDIX C

Photographic Log

**Photographic Log**

BTA Oil Producers, LLC

Mesa Dolphin CTB

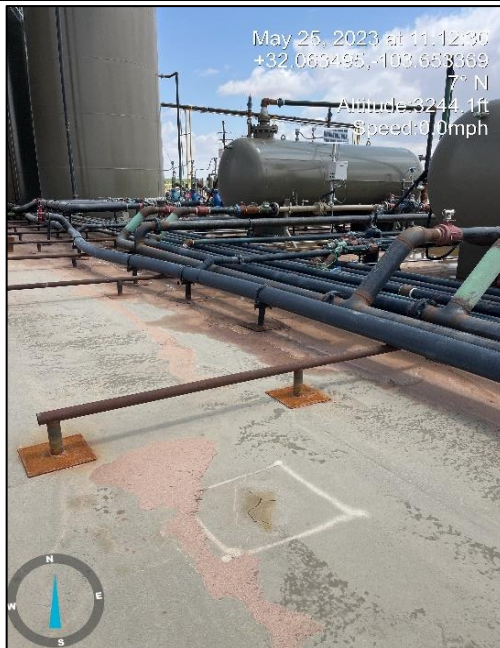
Incident Number nAPP2313555368



Photograph: 1 Date: 5/12/2023
Description: Initial assessment activities
View: Northeast



Photograph: 2 Date: 5/12/2023
Description: Liner inspection activities
View: Northeast



Photograph: 3 Date: 5/25/2023
Description: Liner delineation activities
View: North



Photograph: 4 Date: 6/1/2023
Description: Overspray extent delineation activities
View: North



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

May 17, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA DOLPHIN CTB

Enclosed are the results of analyses for samples received by the laboratory on 05/12/23 14:35.

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 01 0.5' (H232401-01)

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	05/16/2023	ND	2.23	112	2.00	4.60	
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51	
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22	
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03	
Total BTX	<0.300	0.300	05/16/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	05/16/2023	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	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 88.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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
HADLIE GREEN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 02 0.5' (H232401-02)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	05/16/2023	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	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 86.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 03 0.5' (H232401-03)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	05/16/2023	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	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 04 0.5' (H232401-04)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/16/2023	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	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 97.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 05 0.5' (H232401-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	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	4560	16.0	05/16/2023	ND	432	108	400	3.64	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	40.2	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 06 0.5' (H232401-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	05/16/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 87.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 07 0.5' (H232401-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	352	16.0	05/16/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 84.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 08 0.5' (H232401-08)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	528	16.0	05/16/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 88.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 09 0.5' (H232401-09)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	05/16/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 86.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 05/12/2023
Reported: 05/17/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.063068,-103.652592

Sampling Date: 05/12/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SS 10 0.5' (H232401-10)

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	05/16/2023	ND	2.23	112	2.00	4.60		
Toluene*	<0.050	0.050	05/16/2023	ND	2.22	111	2.00	4.51		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.20	110	2.00	5.22		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	6.69	112	6.00	5.03		
Total BTEX	<0.300	0.300	05/16/2023	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	48.0	16.0	05/16/2023	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2023	ND	185	92.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	05/15/2023	ND	194	96.9	200	0.0656	
EXT DRO >C28-C36	<10.0	10.0	05/15/2023	ND					

Surrogate: 1-Chlorooctane 74.9 % 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

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

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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



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

May 31, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA DOLPHIN CTB

Enclosed are the results of analyses for samples received by the laboratory on 05/25/23 13:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/25/2023	Sampling Date:	05/25/2023
Reported:	05/31/2023	Sampling Type:	Soil
Project Name:	MESA DOLPHIN CTB	Sampling Condition:	Cool & Intact
Project Number:	03C2012039	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.062833,-103.652055		

Sample ID: BH 01 0.5' (H232670-01)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/25/2023	ND	2.06	103	2.00	3.82		
Toluene*	<0.050	0.050	05/25/2023	ND	2.09	105	2.00	5.06		
Ethylbenzene*	<0.050	0.050	05/25/2023	ND	2.17	109	2.00	4.68		
Total Xylenes*	<0.150	0.150	05/25/2023	ND	6.39	106	6.00	5.17		
Total BTEX	<0.300	0.300	05/25/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	05/25/2023	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	05/25/2023	ND	206	103	200	0.931	
DRO >C10-C28*	<10.0	10.0	05/25/2023	ND	212	106	200	1.07	
EXT DRO >C28-C36	<10.0	10.0	05/25/2023	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 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
HADLIE GREEN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 05/25/2023
Reported: 05/31/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.062833,-103.652055

Sampling Date: 05/25/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: BH 01 A 1' (H232670-02)

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	05/25/2023	ND	2.06	103	2.00	3.82	
Toluene*	<0.050	0.050	05/25/2023	ND	2.09	105	2.00	5.06	
Ethylbenzene*	<0.050	0.050	05/25/2023	ND	2.17	109	2.00	4.68	
Total Xylenes*	<0.150	0.150	05/25/2023	ND	6.39	106	6.00	5.17	
Total BTEx	<0.300	0.300	05/25/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	05/25/2023	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	05/25/2023	ND	206	103	200	0.931	
DRO >C10-C28*	<10.0	10.0	05/25/2023	ND	212	106	200	1.07	
EXT DRO >C28-C36	<10.0	10.0	05/25/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

June 05, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA DOLPHIN CTB

Enclosed are the results of analyses for samples received by the laboratory on 06/02/23 8:34.

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

Received: 06/02/2023
Reported: 06/05/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.062833,-103.652055

Sampling Date: 06/01/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 05 A 2' (H232790-01)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2023	ND	2.19	109	2.00	4.37	
Toluene*	<0.050	0.050	06/02/2023	ND	2.26	113	2.00	6.78	
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	2.49	124	2.00	1.28	
Total Xylenes*	<0.150	0.150	06/02/2023	ND	7.45	124	6.00	1.63	
Total BTEx	<0.300	0.300	06/02/2023	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	48.0	16.0	06/02/2023	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	06/02/2023	ND	194	96.9	200	3.49	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	179	89.5	200	3.98	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 95.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.4 % 49.1-148

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

Received: 06/02/2023
Reported: 06/05/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.062833,-103.652055

Sampling Date: 06/01/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 06 A 2' (H232790-02)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2023	ND	2.19	109	2.00	4.37	
Toluene*	<0.050	0.050	06/02/2023	ND	2.26	113	2.00	6.78	
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	2.49	124	2.00	1.28	
Total Xylenes*	<0.150	0.150	06/02/2023	ND	7.45	124	6.00	1.63	
Total BTEX	<0.300	0.300	06/02/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/02/2023	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	06/02/2023	ND	194	96.9	200	3.49	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	179	89.5	200	3.98	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 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
HADLIE GREEN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 06/02/2023
Reported: 06/05/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.062833,-103.652055

Sampling Date: 06/01/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 11 .5' (H232790-03)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2023	ND	2.19	109	2.00	4.37	
Toluene*	<0.050	0.050	06/02/2023	ND	2.26	113	2.00	6.78	
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	2.49	124	2.00	1.28	
Total Xylenes*	<0.150	0.150	06/02/2023	ND	7.45	124	6.00	1.63	
Total BTEX	<0.300	0.300	06/02/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/02/2023	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	06/02/2023	ND	194	96.9	200	3.49	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	179	89.5	200	3.98	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.4 % 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
HADLIE GREEN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received: 06/02/2023
Reported: 06/05/2023
Project Name: MESA DOLPHIN CTB
Project Number: 03C2012039
Project Location: BTA 32.062833,-103.652055

Sampling Date: 06/01/2023
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Shalyn Rodriguez

Sample ID: SS 11 A 1' (H232790-04)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2023	ND	2.19	109	2.00	4.37	
Toluene*	<0.050	0.050	06/02/2023	ND	2.26	113	2.00	6.78	
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	2.49	124	2.00	1.28	
Total Xylenes*	<0.150	0.150	06/02/2023	ND	7.45	124	6.00	1.63	
Total BTEX	<0.300	0.300	06/02/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/02/2023	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	06/02/2023	ND	194	96.9	200	3.49	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	179	89.5	200	3.98	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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

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



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

Notes and Definitions

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

Cardinal Laboratories

*=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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST											
Project Manager: <u>Hadlie Green</u>				P.O. #:															
Address: <u>3122 National Parks Hwy</u>				Company: <u>BTA</u>															
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn: <u>Kelton Beaird</u>															
Phone #: <u>432-557-8895</u> Fax #:				Address: <u>104 S Pecos St.</u>															
Project #: <u>03C2012039</u> Project Owner:				City: <u>Midland</u>															
Project Name: <u>Mesa Dolphin CTB</u>				State: <u>TX</u> Zip: <u>79701</u>															
Project Location:				Phone #:															
Sampler Name: <u>Connor Whitman</u>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		TPH	BTEX	Chloride			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE / COOL	OTHER				DATE	TIME	
<u>H232790</u>	<u>SS05A</u>	<u>2'</u>	<u>1</u>	<u>1</u>								<u>/</u>		<u>6/1/23</u>	<u>1120</u>				
<u>2</u>	<u>SS06A</u>	<u>2'</u>	<u>1</u>	<u>1</u>								<u>/</u>		<u>1125</u>					
<u>3</u>	<u>SS11</u>	<u>5'</u>	<u>1</u>	<u>1</u>								<u>/</u>		<u>1050</u>					
<u>4</u>	<u>SS11A</u>	<u>1'</u>	<u>1</u>	<u>1</u>								<u>/</u>		<u>1055</u>					
<u>CW</u>																			

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

Relinquished By: <u>C. Green</u>		Date: <u>6/1/23</u> Time: <u>2:00</u>	Received By: <u>[Signature]</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By: <u>[Signature]</u>		Date: <u>6-2-23</u> Time: <u>0834</u>	Received By: <u>[Signature]</u>		All Results are emailed. Please provide Email address: <u>Hgreen@Ensolum.com</u>	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C <u>-0.4</u> Corrected Temp. °C <u>-1.0</u>	Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <u>SK</u>	REMARKS:	
				Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C	
				Thermometer ID #113 Correction Factor -0.5°C		

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



APPENDIX E

NMOCD Notifications

From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Containment Inspection - Mesa Dolphin CTB (Spill Date 4/27/2023)
Date: Monday, May 8, 2023 3:49:16 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

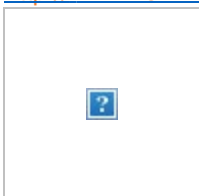
[**EXTERNAL EMAIL**]

Hadlie,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Friday, May 5, 2023 2:24 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Nathan Sirgo <nsirgo@btaoil.com>; kjones@btaoil.com
Subject: [EXTERNAL] BTA - Containment Inspection - Mesa Dolphin CTB (Spill Date 4/27/2023)

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

To Whom It May Concern,

Below is an email notification for liner inspection at BTA Oil Producers, LLC (BTA) Mesa Dolphin CTB / Spill Date 4-27-2023. This is a notification that Ensolum is scheduled to inspect this lined containment on behalf of BTA on Thursday, May 11, 2023. Please call with any questions or concerns.

GPS: 32.06489, -103.65264

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Hamlet, Robert, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 05/22/2023
Date: Friday, May 19, 2023 2:25:29 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

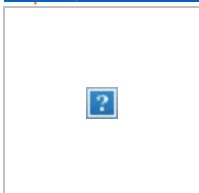
[**EXTERNAL EMAIL**]

Hadlie,

Please be aware that 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 insure inclusion in the project file.

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, May 18, 2023 11:37 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Nathan Sirgo <nsirgo@btaoil.com>; Kevin Jones <kjones@btaoil.com>; Kelton Beaird <KBeaird@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 05/22/2023

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 May 22, 2023.

- Harroun Ranch #005 / nAPP2200455573
 - Sampling Date: 5/23/2023 @ 9:00 AM MST

- Harroun East Tank Battery / nAPP2204151142
 - Sampling Date: 5/22/2023 @ 9:00 AM MST
- Harroun East Tank Battery / nAPP2202845563
 - Sampling Date: 5/22/2023 @ 9:00 AM MST
- Mesa Dolphin CTB / nAPP2313555368
 - Sampling Date: 5/25/2023 @ 9:00 AM MST
- Mesa 2H Production Facility / nAPP2115531696
 - Sampling Date: 5/25/2023 @ 9:00 AM MST
- Rojo 20 21 Tank Battery / nAPP2123554329
 - Sampling Date: 5/26/2023 @ 9:00 AM MST
- Rojo 38 41 Tank Battery / nAPP2123555001
 - Sampling Date: 5/26/2023 @ 9:00 AM MST
- Mesa 8105 JV-P 004H / nOY1831160155 / nCH1903550822 / nRM2004549559
 - Sampling Date: 5/24-24/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Hamlet, Robert, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 05/29/2023
Date: Wednesday, May 24, 2023 4:30:12 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

[**EXTERNAL EMAIL**]

Hadlie,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, May 24, 2023 2:14 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Nathan Sirgo <nsirgo@btaoil.com>; Kevin Jones (kjones@btaoil.com) <kjones@btaoil.com>; Kelton Beaird <KBeaird@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 05/29/2023

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 May 29, 2023.

- Rojo D 7811 JV P Com #003H / nOY1814130699
 - Sampling Date: 6/1/2023 @ 9:00 AM MST

- Harroun Ranch #005 / nAPP2200455573
 - Sampling Date: 6/2/2023 @ 9:00 AM MST
- Mesa Dolphin CTB / nAPP2313555368
 - Sampling Date: 5/25/2023 @ 9:00 AM MST
- Mesa #2H Production Facility / nAPP2115531696
 - Sampling Date: 5/25/2023 @ 9:00 AM MST
- Chiso 14 #3 & 4 Tank Flare / nOY1829542961
- Chiso 14 Sate 8711 #3H Flare Stack / nCH1903548008
- Chiso 14 State 8711 #003H Wellhead / nAB1917652490
- Chiso 14 State 8711 Flowline / nRM2034960665
 - Sampling Dates: 6/1-5/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC





APPENDIX F

Final C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2313555368
District RP	
Facility ID	fAPP2303735385
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.062833 Longitude -103.652055
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Mesa Dolphin CTB	Site Type:
Date Release Discovered: 4/27/2023	API# (if applicable)

Unit Letter	Section	Township	Range	County
D	11	26S	32E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 1,330	Volume Recovered (bbls) 1,326
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

A water line connecting the heater treater and gun barrel ruptured at a seam in the poly line due to vibration. Fluids released to the lined containment and nearby well pad. All freestanding fluids were recovered.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2313555368
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Release greater than 25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Nathan J. Sirgo</u>	Title: <u>Operations Manager</u>
Signature: <u></u>	Date: <u>5/16/2023</u>
email: <u>nsirgo@btaoil.com</u>	Telephone: <u>432-682-3753</u>
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>05/26/2023</u>

Location Mesa Dolphin CTB
 API #
 Spill Date 4/27/2023
 Spill Description

Spill Dimensions - Inside Lined Containment

ENTER - Length of Spill 275 feet
 ENTER - Width of Spill 65 feet
 ENTER - Saturation Depth of Spill 5 inches
 Calculated Volume - In Containment Only 1326 BBL

Spill Dimensions - Outside Containment

ENTER - Length of Spill 60 feet
 ENTER - Width of Spill 8 feet
 ENTER - Saturation Depth of Spill 0.5 inches

ENTER - Porosity Factor (see chart below) 0 decimal 0.03

Oil Cut - Well Test / Vessel Throughput or Contents

Oil 0
 Water (if leak on water sytem enter 1) 1
 Calculated Oil Cut 0

Volume Recovered in Truck /100% Recoverable in Lined Containment

ENTER - Recovered Oil Outside Containment 0 BBL
 ENTER - Recovered Water Outside Containment 0 BBL

Calculated Values

Release of Oil in Soil - Unrecovered 0.000 BBL
 Release of Water in Soil - Unrecovered 0.107
 Unrecovered Total Release 0.107

Calculated Values

Total Release of Oil 0 BBL
 Total Release of Water 4
 Total Release 1326 BBL

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

TOTAL SPILL 1330
 TOTAL RECOVERY 100%

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 221019

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 221019
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	5/26/2023

Incident ID	nAPP231355368
District RP	
Facility ID	fAPP2303735385
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nAPP2313555368
District RP	
Facility ID	fAPP2303735385
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 Beaird Title: Environmental ManagerSignature:  Date: 7/19/2023email: KBeaird@btaoil.com Telephone: 432-312-2203**OCD Only**Received by: Shelly Wells Date: 7/20/2023

Incident ID	nAPP231355368
District RP	
Facility ID	fAPP2303735385
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: 7/19/2023

email: KBeaird@btaoil.com


Telephone: 432-312-2203

OCD Only

Received by: Shelly Wells

Date: 7/20/2023

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

Closure Approved by:  Date: 10/13/2023

Printed Name: Nelson Velez

Title: Environmental Specialist - Adv

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 242258

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 242258
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Liner inspection approved. Release resolved.	10/13/2023