ENSOLUM

June 22, 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
Vaca West Tank Battery-Manhole Gasket
Incident Number: nAPP2300347524
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Vaca West Tank Battery-Manhole Gasket (Site). The purpose of these remedial actions was to address impacts to soil resulting from a crude oil and produced water release at the Site. Based on excavation activities and laboratory analytical results from the soil sampling events, BTA is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2300347524.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 10, Township 25 South, Range 33 East, in Lea County, New Mexico (32.14046°, -103.56478°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management.

On December 28, 2022, a manhole cover gasket on the western heater split in half, resulting in the release of approximately 10 barrels (bbls) of crude oil and 24 barrels (bbls) of produced water onto the surface of the well pad. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 9 bbls of crude oil and 21 bbls of produced water were recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a *Release Notification Form C-141* (Form C-141) on January 3, 2023. The release was assigned Incident Number nAPP2300347524.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater beneath the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on a nearby soil boring drilled on January 3, 2023. The soil boring, permitted by the New Mexico Office of the State Engineer (NMOSE) as C-04699-POD 1, is located approximately 1.2

miles south of the Site. The soil boring was drilled to a total depth of 78 feet bgs. No groundwater was encountered during drilling activities. The soil boring was subsequently plugged following approved NMOSE procedures. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 1,154 feet northeast 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 (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On January 30, 2023, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven assessment soil samples (SS01 through SS07) were collected within and around the release extent at a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500.

Laboratory analytical results for assessment soil samples SS04 through SS07, collected around the release extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and laterally defined the extent of the release. Laboratory analytical results for assessment soil samples SS01 through SS03, collected within the release extent, indicated TPH concentrations exceeded the Site Closure Criteria. Based on laboratory analytical results and visible staining in the release extent, excavation activities were warranted.

EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS

Between March 20, 2023 and April 7, 2023, Ensolum personnel were at the Site to oversee excavation activities. Excavation activities were performed using a backhoe, hydrovac, and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to depths ranging from 1.5 feet to 2 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Due to the shallow depth of the excavation, the sidewalls were incorporated into the floor samples. Composite soil samples FS01 through FS16 were collected from the floor of the excavation at depths ranging from 1.5 feet to 2 feet bgs. The excavation soil samples were handled and analyzed following the same procedures as described above.

Laboratory analytical results for excavation floor samples FS03, FS05, and FS07 through FS16 indicated all COC concentrations were compliant with the Site Closure Criteria and met the most stringent Table I Closure Criteria. Laboratory analytical results for floor samples FS01, FS02, FS04, and FS06 indicated TPH concentrations were compliant with the Site Closure Criteria but exceeded the most stringent Table I Closure Criteria. Additional soil was removed in the vicinity of floor soil samples FS01, FS02, FS04, and FS06 and subsequent floor samples FS01A, FS02A, FS04A, and FS06A, collected at depths ranging from 1.75 feet to 2 feet bgs, were compliant with the most stringent Table I Closure Criteria. The excavation extent and excavation soil sample locations are presented on Figure 3. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 3,055 square feet and a total of approximately 227 cubic yards of impacted soil was removed during excavation activities. The impacted soil was transported and properly disposed of at a licensed disposal facility in New Mexico.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the December 28, 2022, produced water and crude oil release. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2300347524. The required NMOCD notifications are included as Appendix D and the Final C-141 is included as Appendix E.

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

Sincerely,
Ensolum, LLC

Project Geologist

Ashley Ager, MS, PG
Principal

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

Appendices:

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

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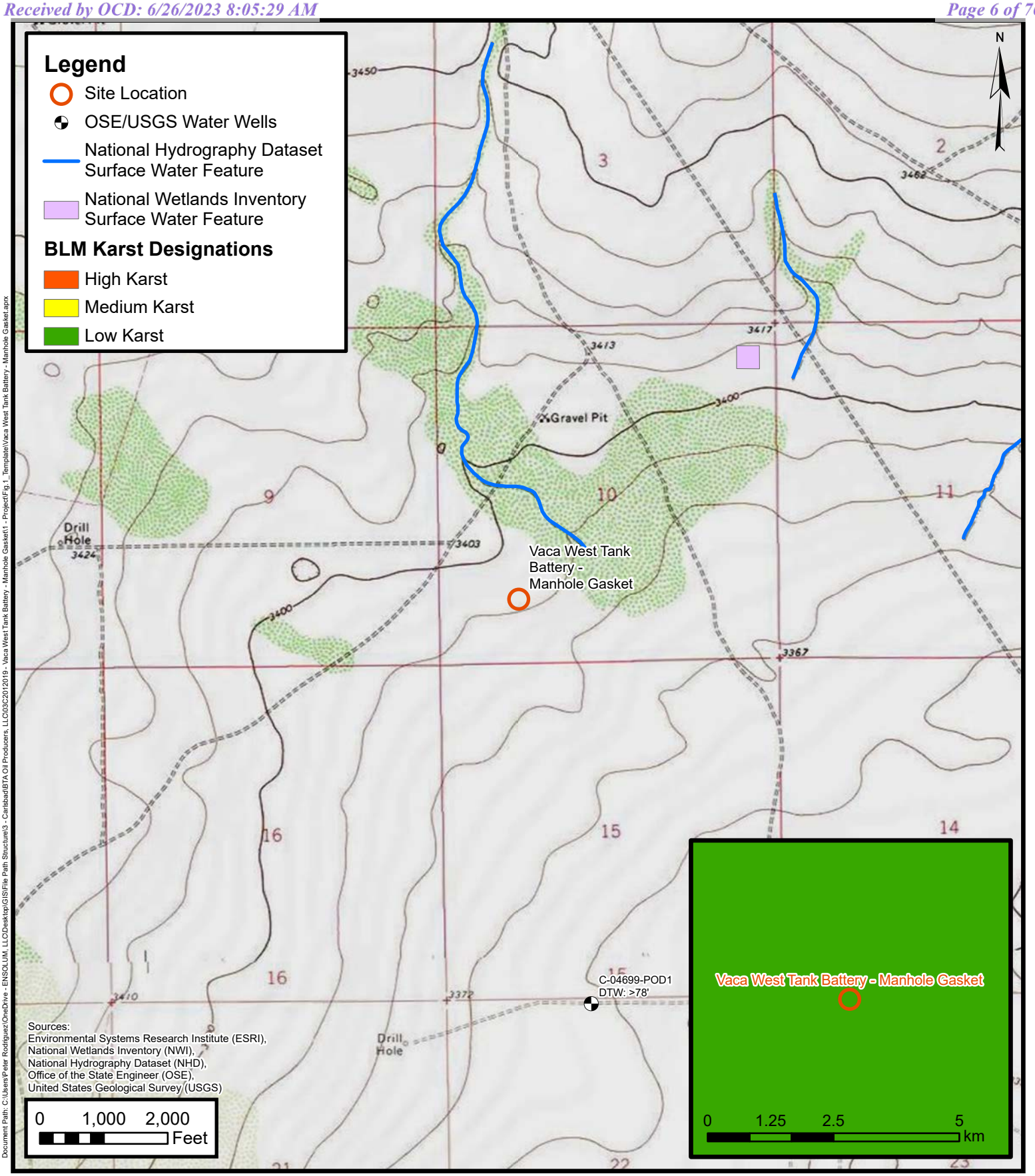
FIGURES



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\BTA Oil Producers, LLC\03C2012019 - Vaca West Tank Battery - Manhole Gasket\1 - Project\Fig 1_Template\Vaca West Tank Battery - Manhole Gasket.aprx

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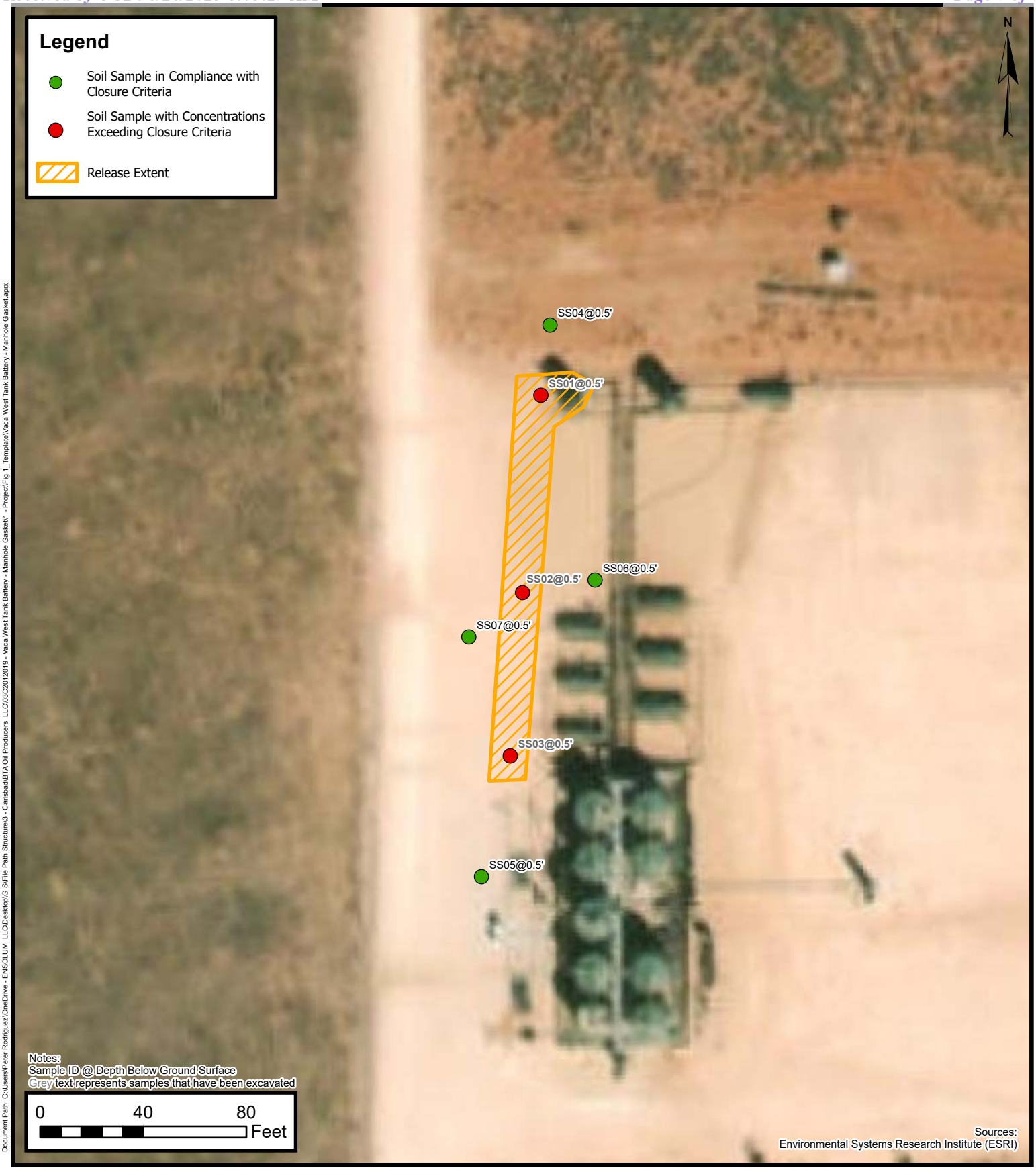
Site Receptor Map

BTA Oil Producers, LLC
Vaca West Tank Battery - Manhole Gasket
Incident Number: NAPP2300347524
Unit M, Sec 10, T25S, R33E
Lea County,New Mexico

FIGURE
1



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Assessment Soil Sample Locations

BTA Oil Producers, LLC
Vaca West Tank Battery - Manhole Gasket
Incident Number: NAPP2300347524
Unit M, Sec 10, T25S, R33E
Lea County,New Mexico

FIGURE
2

Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\BTA Oil Producers, LLC\03C2012019 - Vaca West Tank Battery - Manhole Gasket\1 - Project\Fig 1_Template\Vaca West Tank Battery - Manhole Gasket.aprx

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Excavation Soil Sample Locations

BTA Oil Producers, LLC
Vaca West Tank Battery - Manhole Gasket
Incident Number: NAPP2300347524
Unit M, Sec 10, T25S, R33E
Lea County,New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Vaca West Tank Battery - Manhole Gasket
BTA Oil Producers, LLC
Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01	01/30/2023	0.5	<0.200	**50.4**	923	4,470	521	**5,393**	**5,914**	496
SS02	01/30/2023	0.5	<0.050	4.04	43.6	1,200	172	**1,244**	1,416	2,320
SS03	01/30/2023	0.5	0.767	41.5	746	3,320	452	**4,066**	**4,518**	3,000
SS04	01/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS05	01/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS06	01/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS07	01/30/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Excavation Floor Soil Samples										
FS01	03/20/2023	1.5	<0.050	<0.300	<10.0	366	43.1	409	409	192
FS01A	04/07/2023	1.75	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS02	03/20/2023	1.75	<0.050	<0.300	<10.0	115	12.2	127	127	160
FS02A	04/07/2023	2	<0.050	<0.300	<10.0	47.2	<10.0	47.2	47.2	320
FS03	03/20/2023	1.75	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS04	03/20/2023	1.75	<0.050	<0.300	<10.0	186	32.8	219	219	272
FS04A	04/07/2023	2	<0.050	<0.300	<10.0	47	<10.0	47.3	47.3	144
FS05	03/20/2023	1.75	<0.050	<0.300	<10.0	27.4	<10.0	27.4	27.4	96.0
FS06	03/20/2023	1.75	<0.050	<0.300	<10.0	92.1	10.5	103	103	272
FS06A	04/07/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS07	03/20/2023	1.75	<0.050	<0.300	<10.0	55.9	<10.0	55.9	55.9	288
FS08	03/20/2023	1.75	<0.050	<0.300	<10.0	77.4	<10.0	77.4	77.4	176
FS09	03/20/2023	1.75	<0.050	<0.300	<10.0	62	<10.0	62.0	62.0	192
FS10	03/20/2023	1.75	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS11	03/20/2023	1.75	<0.050	<0.300	<10.0	24.6	<10.0	24.6	24.6	80.0

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Vaca West Tank Battery - Manhole Gasket
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**
FS12	03/20/2023	1.75	<0.050	<0.300	<10.0	29.3	<10.0	29.3	29.3	192
FS13	03/20/2023	1.75	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS14	03/20/2023	1.75	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS15	03/20/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS16	03/20/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

Notes:
bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
NMAC: New Mexico Administrative Code
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Gray text indicates sample was excavated

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APPENDIX A

Referenced Well Records

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Sample Name: BH01	Date: 1/3/2023	
Site Name: Rojo B Poly Line Rupture		
Incident Number: nAPP2216138632		
Job Number: 03C2012002		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS / MR	Method: Air Rotary
Coordinates: 32.123027, -103.561391	Hole Diameter: 6"	Total Depth: 78'

Comments: Soil boring was advanced to a total depth of 87' bgs. No water was observed within the soil boring after at least 72 hours. On 1/5/2023 the soil boring was plugged and abandoned using hydrated bentonite chips.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	(0-30'), CALICHE, coarse grain, well graded, white to tan, dry, no stain or odor.
Dry	-	-	N	-	-	10		
Dry	-	-	N	-	-	20		@20' color change to pink/tan
Dry	-	-	N	-	-	30	SP-SM	(30-78'), SAND, medium to fine grain, poorly graded with trace caliche nodules, red to orange, dry, no stain, no odor.
Dry	-	-	N	-	-	40		
Dry	-	-	N	-	-	50		@50', slightly cohesive with trace clay
Dry	-	-	N	-	-	60		
Dry	-	-	N	-	-	70		@70', less clache nodules
Dry	-	-	N	-	-	78		NOTE: refusal @ 78' using air rotary drill rig due to abundant sand. Borehole collapsed to 69' upon completion.

Total Depth @ 78 feet bgs

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1 (TW-1)	N/A	C-4627

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Devon Energy	575-748-1838

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6488 7 Rivers Hwy	Artesia	NM	88210

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	8	20.92	N
	LONGITUDE	103	35	36.25	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

SW SW SE Sec.8 T25S R33S NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
6/7/2022	6/7/2022	Temporary Well	±55	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 6/13/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) 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	55	±6.5	Boring-HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

OSE DII JUN 16 2022 PM 3:10

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. C-4627-POD 1	POD NO. 1	TRN NO. 726174
LOCATION 25.33.08.334	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	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)
0	7	7	Sand, Fine-grained, poorly graded, 2.5 YR 3/6, Dark Red	Y ✓ N	
7	24	17	Caliche, with Fine-grained sand, 7.5 YR 7/4, Pink	Y ✓ N	
24	55	31	Caliche, with Fine-grained sand, well consolidated, 7.5 YR 7/4, Pink	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ 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 material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.
26
Flagler 8 Fed 20

OSE DII JUN 16 2022 PM3:10

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 6/16/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. C-4627-POD 1	POD NO. 1	TRN NO. 726174	
LOCATION 25.33.08.334		WELL TAG ID NO. —	PAGE 2 OF 2

Mike A. Hamman, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 726174
File Nbr: C 04627
Well File Nbr: C 04627 POD1

Jun. 18, 2022

DALE WOODALL
DEVON ENERGY
6488 7 RIVERS HWY
ARTESIA, NM 88210

Greetings:

The above numbered permit was issued in your name on 05/24/2022.

The Well Record was received in this office on 06/18/2022, stating that it had been completed on 06/07/2022, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 05/24/2023.

If you have any questions, please feel free to contact us.

Sincerely,

Maret Amaral
(575)622-6521

drywell

Atkins
ENGINEERING ASSOCIATES INC.
2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

June 8, 2022

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4627 Pod1 at Flagler 8 Fed 20

To whom it may concern:

Attached please find a well log & record and a plugging record, in duplicate, for a one (1) soil borings, C-4627 Pod1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

OSE DII JUN 16 2022 PM3:10

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321017103343201

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321017103343201 24S.33E.33.23231

Lea County, New Mexico
Latitude 32°10'17", Longitude 103°34'32" NAD27
Land-surface elevation 3,475 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Ogallala Formation (121OGLL) 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 measu
1954-03-17		D	62610		3380.19	NGVD29	1	Z		
1954-03-17		D	62611		3381.85	NAVD88	1	Z		
1954-03-17		D	72019	93.15			1	Z		
1976-01-22		D	62610		3381.29	NGVD29	1	Z		
1976-01-22		D	62611		3382.95	NAVD88	1	Z		
1976-01-22		D	72019	92.05			1	Z		
1981-03-20		D	62610		3380.53	NGVD29	1	Z		
1981-03-20		D	62611		3382.19	NAVD88	1	Z		
1981-03-20		D	72019	92.81			1	Z		
1986-03-11		D	62610		3378.77	NGVD29	1	Z		
1986-03-11		D	62611		3380.43	NAVD88	1	Z		
1986-03-11		D	72019	94.57			1	Z		
1991-06-06		D	62610		3378.72	NGVD29	1	Z		
1991-06-06		D	62611		3380.38	NAVD88	1	Z		
1991-06-06		D	72019	94.62			1	Z		
1996-03-01		D	62610		3378.99	NGVD29	1	S		
1996-03-01		D	62611		3380.65	NAVD88	1	S		

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 measu
1996-03-01		D	72019	94.35			1	S		

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
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	S	Steel-tape measurement.
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.

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
BTA Oil Producers, LLC
Vaca West Tank Battery-Manhole Gasket
Incident Number nAPP2300347524

Photograph: 1 Date: 12/28/2022
Description: Initial release footprint
View: Southwest

Photograph: 2 Date: 1/30/2023
Description: Initial assessment activities
View: East

Photograph: 3 Date: 3/20/2023
Description: Excavation activities
View: North

Photograph: 4 Date: 4/7/2023
Description: Excavation activities
View: South

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

February 06, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: VACA WEST TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/02/23 13:05.

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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 01 (H230464-01)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	02/03/2023	ND	2.11	106	2.00	0.219	
Toluene*	**6.69**	0.200	02/03/2023	ND	2.10	105	2.00	0.341	
Ethylbenzene*	**3.63**	0.200	02/03/2023	ND	2.05	102	2.00	0.939	
Total Xylenes*	**40.0**	0.600	02/03/2023	ND	6.24	104	6.00	1.00	GC-NC1
Total BTEX	**50.4**	1.20	02/03/2023	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *185 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**923**	10.0	02/02/2023	ND	201	100	200	3.55	QM-07
DRO >C10-C28*	**4470**	10.0	02/02/2023	ND	214	107	200	5.22	QM-07
EXT DRO >C28-C36	**521**	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *152 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *130 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 02 (H230464-02)

BTEX 8021B mg/kg Analyzed By: JH S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/03/2023	ND	2.11	106	2.00	0.219	
Toluene*	**0.437**	0.050	02/03/2023	ND	2.10	105	2.00	0.341	
Ethylbenzene*	**0.278**	0.050	02/03/2023	ND	2.05	102	2.00	0.939	
Total Xylenes*	**3.32**	0.150	02/03/2023	ND	6.24	104	6.00	1.00	GC-NC1
Total BTEX	**4.04**	0.300	02/03/2023	ND					GC-NC1

Surrogate: 4-Bromofluorobenzene (PID *136 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2320**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**43.6**	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	**1200**	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	**172**	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *86.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 03 (H230464-03)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.767**	0.200	02/03/2023	ND	2.01	101	2.00	5.27	GC-NC1
Toluene*	**6.48**	0.200	02/03/2023	ND	2.05	103	2.00	2.81	
Ethylbenzene*	**2.21**	0.200	02/03/2023	ND	2.03	101	2.00	2.93	
Total Xylenes*	**32.1**	0.600	02/03/2023	ND	6.15	102	6.00	2.28	GC-NC1
Total BTEX	**41.5**	1.20	02/03/2023	ND					GC-NC1

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

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3000**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**764**	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	**3320**	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	**452**	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *133 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 04 (H230464-04)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/03/2023	ND	2.01	101	2.00	5.27	
Toluene*	**0.055**	0.050	02/03/2023	ND	2.05	103	2.00	2.81	
Ethylbenzene*	<0.050	0.050	02/03/2023	ND	2.03	101	2.00	2.93	
Total Xylenes*	<0.150	0.150	02/03/2023	ND	6.15	102	6.00	2.28	
Total BTEX	<0.300	0.300	02/03/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	<10.0	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	<10.0	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *79.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 05 (H230464-05)

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	02/03/2023	ND	2.01	101	2.00	5.27	
Toluene*	<0.050	0.050	02/03/2023	ND	2.05	103	2.00	2.81	
Ethylbenzene*	<0.050	0.050	02/03/2023	ND	2.03	101	2.00	2.93	
Total Xylenes*	<0.150	0.150	02/03/2023	ND	6.15	102	6.00	2.28	
Total BTEX	<0.300	0.300	02/03/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	<10.0	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	<10.0	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *79.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 06 (H230464-06)

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	02/03/2023	ND	2.01	101	2.00	5.27	
Toluene*	<0.050	0.050	02/03/2023	ND	2.05	103	2.00	2.81	
Ethylbenzene*	<0.050	0.050	02/03/2023	ND	2.03	101	2.00	2.93	
Total Xylenes*	<0.150	0.150	02/03/2023	ND	6.15	102	6.00	2.28	
Total BTEX	<0.300	0.300	02/03/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	<10.0	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	<10.0	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *77.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	02/02/2023	Sampling Date:	01/30/2023
Reported:	02/06/2023	Sampling Type:	Soil
Project Name:	VACA WEST TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

Sample ID: SS 07 (H230464-07)

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	02/03/2023	ND	2.01	101	2.00	5.27	
Toluene*	<0.050	0.050	02/03/2023	ND	2.05	103	2.00	2.81	
Ethylbenzene*	<0.050	0.050	02/03/2023	ND	2.03	101	2.00	2.93	
Total Xylenes*	<0.150	0.150	02/03/2023	ND	6.15	102	6.00	2.28	
Total BTEX	<0.300	0.300	02/03/2023	ND					

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

Chloride, SM4500Cl-B mg/kg Analyzed By: GM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/02/2023	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/02/2023	ND	201	100	200	3.55	
DRO >C10-C28*	<10.0	10.0	02/02/2023	ND	214	107	200	5.22	
EXT DRO >C28-C36	<10.0	10.0	02/02/2023	ND					

Surrogate: 1-Chlorooctane *76.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC1	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum
Project Manager: Hadlie Green
Address: 3122 National Park Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: 432-557-8895 Fax #:
Project #: 03C20120I9 Project Owner: BTA
Project Name: Vaca West Tank Battery
Project Location:
Sampler Name: Connor Whitman

BILL TO

P.O. #:
Company: BTA O:1
Attn: Bob Hall
Address: 104 S. Pecos St.
City: Midland
State: TX Zip: 79701
Phone #: 432-312-2203
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	TPH	Chlorides
H230404											✓						
1	SS01	G	1			✓					✓		1/30/23	9:40	✓	✓	✓
2	SS02		1			✓					✓			9:45	✓	✓	✓
3	SS03		1			✓					✓			9:50	✓	✓	✓
4	SS04		1			✓					✓			10:35	✓	✓	✓
5	SS05		1			✓					✓			10:40	✓	✓	✓
6	SS06		1			✓					✓			10:45	✓	✓	✓
7	SS07		1			✓					✓			10:50	✓	✓	✓

Relinquished By: Date: 2/2/23 Received By:
Time: 1305
Relinquished By: Date: Received By:
Time:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
hgreen@Ensolum.com cwhitman@Ensolum.com
REMARKS:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:
Observed Temp. °C 2.3c
Corrected Temp. °C 1.7c
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials) SR

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #113
Correction Factor -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.3 07/18/22

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

CARDINAL Laboratories

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

March 28, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: VACA DRAW WEST TB

Enclosed are the results of analyses for samples received by the laboratory on 03/22/23 14:10.

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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 01 1.5' (H231317-01)

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	03/24/2023	ND	2.00	100	2.00	2.66	
Toluene*	<0.050	0.050	03/24/2023	ND	2.04	102	2.00	2.83	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.07	103	2.00	4.52	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	6.28	105	6.00	5.54	
Total BTEX	<0.300	0.300	03/24/2023	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	**192**	16.0	03/24/2023	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**366**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	**43.1**	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *84.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 02 1.75' (H231317-02)

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	03/24/2023	ND	2.00	100	2.00	2.66	
Toluene*	<0.050	0.050	03/24/2023	ND	2.04	102	2.00	2.83	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.07	103	2.00	4.52	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	6.28	105	6.00	5.54	
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *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	**160**	16.0	03/24/2023	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**115**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	**12.2**	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *115 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *131 %* *49.1-148*

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CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 03 1.75' (H231317-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	QM-07
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	QM-07
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *117 %* *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	03/24/2023	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	<10.0	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *116 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *128 %* *49.1-148*

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Analytical Results For:

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

Received:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 04 1.75' (H231317-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *110 %* *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	**272**	16.0	03/24/2023	ND	448	112	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**186**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	**32.8**	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *122 %* *49.1-148*

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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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 05 1.75' (H231317-05)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**96.0**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**27.4**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *112 %* *49.1-148*

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Analytical Results For:

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

Received:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 06 1.75' (H231317-06)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**272**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**92.1**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	**10.5**	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *120 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *136 %* *49.1-148*

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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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 07 1.75' (H231317-07)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**288**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**55.9**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *115 %* *49.1-148*

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CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 08 1.75' (H231317-08)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**176**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**77.4**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *106 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *118 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 09 1.75' (H231317-09)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**192**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	171	85.6	200	26.9	
DRO >C10-C28*	**62.0**	10.0	03/24/2023	ND	178	89.2	200	28.6	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *88.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *104 %* *49.1-148*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 10 1.75' (H231317-10)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**128**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/24/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *128 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *140 %* *49.1-148*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 11 1.75' (H231317-11)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *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	03/24/2023	ND	416	104	400	7.41	

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	03/27/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	**24.6**	10.0	03/27/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/27/2023	ND					

Surrogate: 1-Chlorooctane *91.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 12 1.75' (H231317-12)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *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	**192**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/27/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	**29.3**	10.0	03/27/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/27/2023	ND					

Surrogate: 1-Chlorooctane *85.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 13 1.75' (H231317-13)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *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	03/24/2023	ND	416	104	400	7.41	

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	03/27/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/27/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/27/2023	ND					

Surrogate: 1-Chlorooctane *92.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *97.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 14 1.75' (H231317-14)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**32.0**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/24/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *130 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *142 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 15 1.5' (H231317-15)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	**48.0**	16.0	03/24/2023	ND	416	104	400	7.41	

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	03/27/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/27/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/27/2023	ND					

Surrogate: 1-Chlorooctane *93.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *98.5 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	03/22/2023	Sampling Date:	03/20/2023
Reported:	03/28/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	32.14046, -103.56478		

Sample ID: FS 16 1.5' (H231317-16)

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	03/24/2023	ND	1.97	98.7	2.00	1.72	
Toluene*	<0.050	0.050	03/24/2023	ND	2.20	110	2.00	1.79	
Ethylbenzene*	<0.050	0.050	03/24/2023	ND	2.32	116	2.00	4.07	
Total Xylenes*	<0.150	0.150	03/24/2023	ND	7.13	119	6.00	5.03	
Total BTEX	<0.300	0.300	03/24/2023	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	03/24/2023	ND	416	104	400	7.41	

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	03/24/2023	ND	193	96.5	200	1.23	
DRO >C10-C28*	<10.0	10.0	03/24/2023	ND	195	97.7	200	2.91	
EXT DRO >C28-C36	<10.0	10.0	03/24/2023	ND					

Surrogate: 1-Chlorooctane *130 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *146 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04	The RPD for the BS/BSD was outside of historical limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Pg 1 of 2

Company Name: Ensolum, LLC	
Project Manager: Hadlie Green	
Address: 3122 Nat'l Parks Hwy	
City: Carlsbad State: NM Zip: 88220	
Phone #: 432-557-8895 Fax #:	
Project #: 03C2012019 Project Owner:	
Project Name: Vaca Draw West TB	
Project Location: 32.14046, -103.56478	
Sampler Name: Meredith Roberts	

BILL TO

P.O. #:	
Company: BTA Oil	
Attn: Bob Hall	
Address: 104S Pecos St	
City: Midland	
State: TX Zip: 79701	
Phone #: 432-312-2203	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX	Chlorides	TPH
H231317																		
1	FS01	1.5'	C	1			X					X		3/20/23	1015	X	X	X
2	FS02	1.75'													1200			
3	FS03														1205			
4	FS04														1210			
5	FS05														1240			
6	FS06														1245			
7	FS07														1345			
8	FS08														1350			
9	FS09														1355			
10	FS10														1400			

Relinquished By:	Date: 3/22/23 Time: 1410	Received By:	Verbal Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address:

REMARKS: tmorrissey@ensolum.com mroberts@ensolum.com hgreen@ensolum.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C -0.3	Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) SR	Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #113 Correction Factor -0.5°C

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

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Pg 2 of 2

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Hadlie Green	P.O. #:
Address: 3122 Nat'l Parks Hwy	Company: BTA Oil
City: Carlsbad State: NM Zip: 88220	Attn: Bob Hall
Phone #: 432-557-8895 Fax #:	Address: 104 S Pecos St
Project #: 03C2012019 Project Owner:	City: Midland
Project Name: Vaca Draw West TB	State: TX Zip: 79701
Project Location: 32.14046, -103.56478	Phone #: 432-312-2203
Sampler Name:	Fax #:

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		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	BTEX	Chlorides	TPH
H231317																		
11	FS11	1.75'	C	1			X					X		3/20/23	1430	X	X	X
12	FS12	↓	↓	↓			↓					↓		↓	1435	↓	↓	↓
13	FS13	↓	↓	↓			↓					↓		↓	1440	↓	↓	↓
14	FS14	↓	↓	↓			↓					↓		↓	1445	↓	↓	↓
15	FS15	1.5'	↓	↓			↓					↓		↓	1125	↓	↓	↓
16	FS16	↓	↓	↓			↓					↓		↓	1130	↓	↓	↓

Relinquished By:	Date: 3/22/23 Time: 1410	Received By:	Verbal Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address:

REMARKS: tmorrissey@ensolum.com mroberts@ensolum.com ngreen@ensolum.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C -0.3	Sample Condition Cool Intact ☑ Yes ☑ Yes ☐ No ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐ Thermometer ID #113 Correction Factor -0.5°C

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

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

April 18, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: VACA DRAW WEST TB

Enclosed are the results of analyses for samples received by the laboratory on 04/12/23 14:15.

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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	04/12/2023	Sampling Date:	04/07/2023
Reported:	04/18/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.14046, -103.56478		

Sample ID: FS 01 A 1.75' (H231726-01)

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	04/15/2023	ND	1.77	88.3	2.00	6.23	
Toluene*	<0.050	0.050	04/15/2023	ND	1.85	92.3	2.00	7.31	
Ethylbenzene*	<0.050	0.050	04/15/2023	ND	2.02	101	2.00	6.93	
Total Xylenes*	<0.150	0.150	04/15/2023	ND	6.23	104	6.00	6.43	
Total BTEX	<0.300	0.300	04/15/2023	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	**80.0**	16.0	04/17/2023	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	04/15/2023	ND	171	85.3	200	2.39	
DRO >C10-C28*	<10.0	10.0	04/15/2023	ND	175	87.6	200	1.89	
EXT DRO >C28-C36	<10.0	10.0	04/15/2023	ND					

Surrogate: 1-Chlorooctane *94.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	04/12/2023	Sampling Date:	04/07/2023
Reported:	04/18/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.14046, -103.56478		

Sample ID: FS 02 A 2' (H231726-02)

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	04/15/2023	ND	1.77	88.3	2.00	6.23	
Toluene*	<0.050	0.050	04/15/2023	ND	1.85	92.3	2.00	7.31	
Ethylbenzene*	<0.050	0.050	04/15/2023	ND	2.02	101	2.00	6.93	
Total Xylenes*	<0.150	0.150	04/15/2023	ND	6.23	104	6.00	6.43	
Total BTEX	<0.300	0.300	04/15/2023	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	**320**	16.0	04/17/2023	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	04/15/2023	ND	171	85.3	200	2.39	
DRO >C10-C28*	**47.2**	10.0	04/15/2023	ND	175	87.6	200	1.89	
EXT DRO >C28-C36	<10.0	10.0	04/15/2023	ND					

Surrogate: 1-Chlorooctane *98.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	04/12/2023	Sampling Date:	04/07/2023
Reported:	04/18/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.14046, -103.56478		

Sample ID: FS 04 A 2' (H231726-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2023	ND	1.77	88.3	2.00	6.23	
Toluene*	<0.050	0.050	04/15/2023	ND	1.85	92.3	2.00	7.31	
Ethylbenzene*	<0.050	0.050	04/15/2023	ND	2.02	101	2.00	6.93	
Total Xylenes*	<0.150	0.150	04/15/2023	ND	6.23	104	6.00	6.43	
Total BTEX	<0.300	0.300	04/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *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	**144**	16.0	04/17/2023	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	04/15/2023	ND	171	85.3	200	2.39	
DRO >C10-C28*	**47.3**	10.0	04/15/2023	ND	175	87.6	200	1.89	
EXT DRO >C28-C36	<10.0	10.0	04/15/2023	ND					

Surrogate: 1-Chlorooctane *89.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	04/12/2023	Sampling Date:	04/07/2023
Reported:	04/18/2023	Sampling Type:	Soil
Project Name:	VACA DRAW WEST TB	Sampling Condition:	Cool & Intact
Project Number:	03C2012019	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.14046, -103.56478		

Sample ID: FS 06 A 2' (H231726-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/15/2023	ND	1.77	88.3	2.00	6.23	
Toluene*	<0.050	0.050	04/15/2023	ND	1.85	92.3	2.00	7.31	
Ethylbenzene*	<0.050	0.050	04/15/2023	ND	2.02	101	2.00	6.93	
Total Xylenes*	<0.150	0.150	04/15/2023	ND	6.23	104	6.00	6.43	
Total BTEX	<0.300	0.300	04/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *126 %* *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	**256**	16.0	04/17/2023	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	04/15/2023	ND	171	85.3	200	2.39	
DRO >C10-C28*	<10.0	10.0	04/15/2023	ND	175	87.6	200	1.89	
EXT DRO >C28-C36	<10.0	10.0	04/15/2023	ND					

Surrogate: 1-Chlorooctane *80.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *85.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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**
Project Manager: Hadlie Green	P.O. #:
Address: 3122 Nat'l Parks Hwy	Company: BTA Oil
City: Carlsbad State: NM Zip: 88220	Attn: Bob Hall
Phone #: 432·557·8895 Fax #:	Address: 104 S Pecos St
Project #: 03C2012019 Project Owner:	City: Midland
Project Name: Vaca Draw West TB	State: TX Zip: 79701
Project Location: 32.14046, -103.56478	Phone #: 432·312·2203
Sampler Name: Meredith Roberts	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	Chlorides	TPH	
H231726																			
1	FS01A	1.75'	C	1			X					X		4/7/23	1040	X	X	X	
2	FS02A	2'													1045				
3	FS04A	2'													1050				
4	FS06A	2'													1055				
																		→	MR

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:	Date: 4/10/23	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1415		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 3.2	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: ☐ Standard ☑ Rush
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.6			Thermometer ID #113 Correction Factor -0.5°C

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

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

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Hadlie Green
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 02/27/2023
Date: Friday, February 24, 2023 2:45:46 PM
Attachments: image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Hadie,

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: Friday, February 24, 2023 11:41 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 02/27/2023

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 February 27, 2023.

- RGA #1 / Incident Number NAPP2228347919
  - GPS: 32.30386, -104.05949
- Mesa B East Poly Line Weld Failure / Incident Number nAPP2232980823

  - GPS: 32.06018, -103.60497
- Vaca Draw West TB / nAPP2300347524
  - GPS: 32.14046, -103.56478

Thank you,

Hadlie Green
Staff Geologist
432-557-8895
hgreen@ensolum.com
Ensolum, LLC

From: Nobui, Jennifer, EMNRD
To: Hadlie Green
Cc: Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Subject: FW: [EXTERNAL] BTA- Extension Request - Vaca West Tank Battery - Manhole Gasket (Incident Number nAPP2300347524)
Date: Friday, March 24, 2023 9:42:12 AM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Hello Hadlie

OCD approves your 90-day extension request to June 26, 2023 to submit a remediation plan or closure report. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, March 23, 2023 3:28 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA- Extension Request - Vaca West Tank Battery - Manhole Gasket (Incident Number nAPP2300347524)

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

All,

BTA is requesting an extension for the current deadline of March 28, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for Vaca West Tank Battery – Manhole Gasket (Incident Number nAPP2300347524). The release was discovered on December 28, 2022. Initial site assessment activities have been completed and excavation of impacted soil has been completed. Based on the most recent field screening results, BTA believes all impacted soil has been removed; however, we are waiting for laboratory analytical results to confirm. In order to complete additional remediation activities and submit a remediation work plan or closure report, BTA requests a 90-dau extension of this deadline until June 26, 2023.

Thank you,

Hadlie Green
Project Manager

432-557-8895
hgreen@ensolum.com
Ensolum, LLC

From: Nobui, Jennifer, EMNRD
To: Hadlie Green
Cc: Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Subject: FW: [EXTERNAL] BTA- Extension Request - Vaca West Tank Battery - Manhole Gasket (Incident Number nAPP2300347524)
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Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

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Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA- Extension Request - Vaca West Tank Battery - Manhole Gasket (Incident Number nAPP2300347524)

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

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Thank you,

Hadlie Green
Project Manager

432-557-8895
hgreen@ensolum.com
Ensolum, LLC

ENSOLUM

APPENDIX E

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2300347524
District RP	
Facility ID	fAPP2135654568
Application ID	

Release Notification

Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # *(assigned by OCD)* nAPP2202849030
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

Location of Release Source

Latitude: 32.14046 Longitude: -103.56478
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Vaca West Tank Battery – Manhole Gasket	Site Type: Tank Battery
Date Release Discovered: 12/28/2022	API# *(if applicable)* Nearest well:

Unit Letter	Section	Township	Range	County
M	10	25S	33E	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)

☒ Crude Oil	Volume Released (bbls) 10 BBL	Volume Recovered (bbls) 9 BBL
☒ Produced Water	Volume Released (bbls) 24 BBL	Volume Recovered (bbls) 21 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Manhole cover gasket on west heater split in half and sprayed fluid onto the ground.

(Spill Calculation Spreadsheet attached.)

Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300347524
District RP	
Facility ID	fAPP2135654568
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Spill volume exceeded 25 BBL.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was provided by NOR filed on 1/3/2023 via the NMOCD Permitting Website.	

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:

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

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

Printed Name: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: 1/3/2023

email: bhall@btaoil.com Telephone: 432-682-3753

OCD Only

Received by: Jocelyn Harimon Date: 01/03/2023

Location Vaca Draw West - Manhole Gasket Split
API #
Spill Date 12/28/2022

Spill Dimensions

ENTER - Length of Spill	45	**feet**
ENTER - Width of Spill	45	**feet**
ENTER - Saturation Depth of Spill	4	**inches**
ENTER - Porosity Factor	0.03	**decimal**

Oil Cut - Well Test / Vessel Throughput or Contents

Oil	3
Water	7
Calculated Oil Cut	0.3

Volume Recovered in Truck / Containment

ENTER - Recovered Oil	9	**BBL**
ENTER - Recovered Water	21	**BBL**

Calculated Values	*calculated*	
Release of Oil in Soil - Unrecovered	1	***BBL***
Release of Water in Soil - Unrecovered	3	***BBL***
Unrecovered Total Release	4	***BBL***

Calculated Values	*calculated*	
Total Release of Oil	10	***BBL***
Total Release of Water	24	***BBL***
Total Release	34	***BBL***

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

$$\frac{\text{(Length X Width X Depth X 1 ft/12 in) X Porosity}}{5.615\ ft^3 / BBL} \times \text{Oil Cut (or Water Cut)}$$

Vaca Draw West
Manhole Gasket Split = 12/28/2022

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

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 171799
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	1/3/2023

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300347524
District RP	
Facility ID	fAPP2135654568
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?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300347524
District RP	
Facility ID	fAPP2135654568
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 Manager_____

Signature:_____ Date: __6/22/2023_____

email: __KBeaird@btaoil.com_____ Telephone: ___432-312-2203___

OCD Only

Received by: Shelly Wells Date: 6/26/2023

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2300347524
District RP	
Facility ID	fAPP2135654568
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: 6/22/2023

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

OCD Only

Received by: Shelly Wells Date: 6/26/2023

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: Nelson Velez Date: 09/20/2023

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 232612

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 232612
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	9/20/2023