December 16, 2022

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request Addendum
Grama 8817 JV-P Federal Com #2H
Incident Number nOY1704029358
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 Addendum* to document additional assessment, delineation, and soil sampling activities performed at the Grama 8817 JV-P Federal Com #2H (Site). The purpose of the additional Site assessment, delineation, and soil sampling activities was to address a denial of the *Closure Request* submitted on behalf of BTA on January, 23, 2017 (and subsequently on November 20, 2021). Based on the delineation activities completed following the denial and laboratory analytical results from the soil sampling events, BTA is submitting this *Closure Request Addendum*, describing follow-up remediation that has occurred and requesting closure for Incident Number nOY1704029358.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 16, Township 22 South, Range 34 East, in Lea County, New Mexico (32.385229° N, 103.481830° W) and is associated with oil and gas exploration and production operations on State Land.

On January 11, 2017, a fine mist of oil was released from the top of the separator, resulting in the release of approximately 5 barrels (bbls) of oil onto pasture directly adjacent to the battery, with none recovered. BTA reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) on January 11, 2017 and submitted a *Release Notification Form C-141* (Form C-141) on February 9, 2017. The release was assigned Incident Number nOY1704029358.

On January 12, 2017, a contractor was hired to oversee remediation of the release extent and confirm to impacts remained in place. A *Closure Request* was submitted January 23, 2017, detailing the remediation and bio-amendment application. NMOCD responded on September 15, 2022, denying the *Closure Request* for the following reasons:

- *Please include a scaled diagram that shows the potentially impacted area, significant surface features including roads and site infrastructure, location of borings, sample points, monitoring wells and subsurface features such as known pipelines to the extent known at the time of submittal including the source of information regarding subsurface features.*
- *The C-141 closure report submitted on 11/10/2021 states "The release is located on top of a historical pit area. Remediation activities will be addressed at time of pit reclamation." If the pit has been reclaimed, please provide a closure report including information regarding the*

remediation of the release. If the pit has not been reclaimed and a deferral request needs to be submitted, page 5 of the C-141 must be completed. A deferral will only be approved if all conditions are met per 19.15.29 NMAC.

The following *Revised Closure Addendum* provides scaled diagrams showing significant Site receptors, Site infrastructure and boring locations and details remediation activities completed at the Site. In addition, a desktop search was conducted to confirm the presence or absence of a historical pit area mentioned in the original *Closure Report*. Results of the desktop are included below..

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well CP-00865 POD 1, located approximately 0.8 miles southwest of the Site. The groundwater well has a reported depth to groundwater of 605 feet bgs and a total depth of 885 feet. This depth to water measurement is consistent with regional data that indicates groundwater is greater than 100 feet bgs and is present between 180 feet and 824 feet bgs. 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 playa lake, located approximately 22,634 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: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

Based on the time that has lapsed since the initial Closure Request was submitted (over five years), BTA tasked Ensolum to assess the historical release to determine if bio-remediation was effective at reducing hydrocarbon impacts to meet the Site Closure Criteria and reclamation requirements.

On October 06, 2022, Ensolum personel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Three assessment soil samples (SS01 through SS03) were collected within the release extent and four assessment soil samples (SS04 through SS07) at a depth of approximately 0.5 feet bgs to assess shallow soil conditions in and around the historical release. The preliminary 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 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 at or below 4 degrees Celsius (°C) 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 preliminary soil samples SS01 through SS07, collected within the release extent, indicated all COC concentrations were compliant with the Closure Criteria; however, additional delineation activities were warranted.

DELINEATION ACTIVITIES AND ANALYTICAL RESULTS

On October 25, 2022, Ensolum personnel were at the Site to perform delineation activities. Three boreholes (BH01 through BH03) were advanced via hand-auger within the pasture release extent. Three discrete delineation soil sample was collected in each location at depth ranging from 1-foot to 5.5 feet bgs. Soil from the delineation samples was field screened for VOCs and chloride. The soil samples were handled and assessed in a similar manner described above. The boreholes were backfilled with soil removed. The delineation soil sample locations are depicted in Figure 2. A photographic log is included in Appendix B. Lithologic / Soil Sampling Logs are provided in Appendix C.

Laboratory analytical results for delineation soil samples BH01 through BH03, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete analytical reports are included as Appendix D.

HISTORICAL PIT ASSESSMENT

Ensolum reviewed files on the NMOCD Permitting and Imaging online portals as well as an pertinent records BTA had for the Site. One closed loop system was permitted at the Site (1 @ 30-025-42808) and approved of by NMOCD in 2015. No other records of any current or historical reserve pits were found during the desktop search. It should be noted that BTA did not have any records of a reserve pit associated with this Site.

Looking through historical imagery of the Site on Google Earth did identify disturbed soil north of the Site starting in 2005. As imagery was reviewed for years 2005, 2009, 2011, 2012, 2014, and 2017, Ensolum did not identify the presence of a reserve pit within the disturbed area. It appears the area was potentially graded for a future production well and/or battery to be constructed; however, it was never used and as such, the area appears to have been reclaimed.

Ensolum believes the previous consultant viewed the historical imagery and assumed it was a former reserve pit without any documentation. Based on the lack of documents and physical observations of a reserve pit north of the Site and in the vicinity of release associated with Incident Number nOY1704029358, it appears there was no historical reserve pit and the release should be addressed on its own as has been completed and described in the previous section.

CLOSURE REQUEST

Site assessment and delineation activities were conducted at the Site to assess the effectiveness of remedial actions, specifically the addition of bio-amendments to residual crude oil within the release extent, that addressed the January 2017 crude oil release. Laboratory analytical results for preliminary and delineation soil samples, collected from the pasture area, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements. In addition, no evidence of the historical pit mentioned in the original *Closure Request* was observed during the delineation activities and no documentation of the historical pit could be found in NMOCD or BTA records. Based on the soil sample analytical results, no further remediation appears to be required.

Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nOY1704029358. The Form C-141 is included as Appendix F.

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

Sincerely,
Ensolum, LLC

Hadlie Green
Staff Geologist

Tacoma Morrissey
Senior Geologist

cc: Bob Hall, BTA Oil Producers, LLC
State Land Office

Appendices:

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

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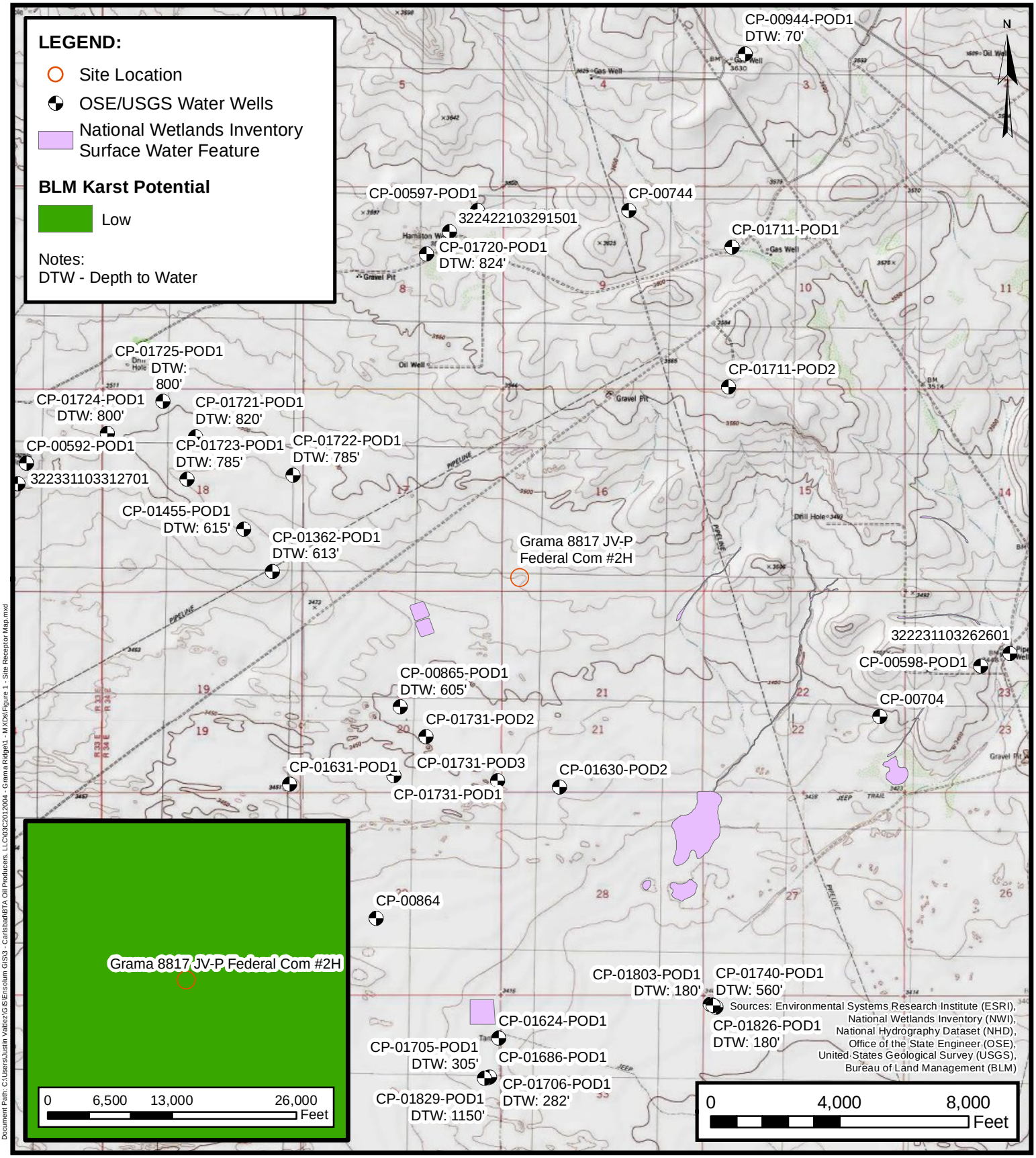
FIGURES



Document Path: C:\Users\Justin Vaitez\GIS\Ensolum GIS\3 - Carlsbad\BTA Oil Producers, LLC\03C2012004 - Grama Ridge\1 - MXDs\Figure 1 - Site Receptor Map.mxd

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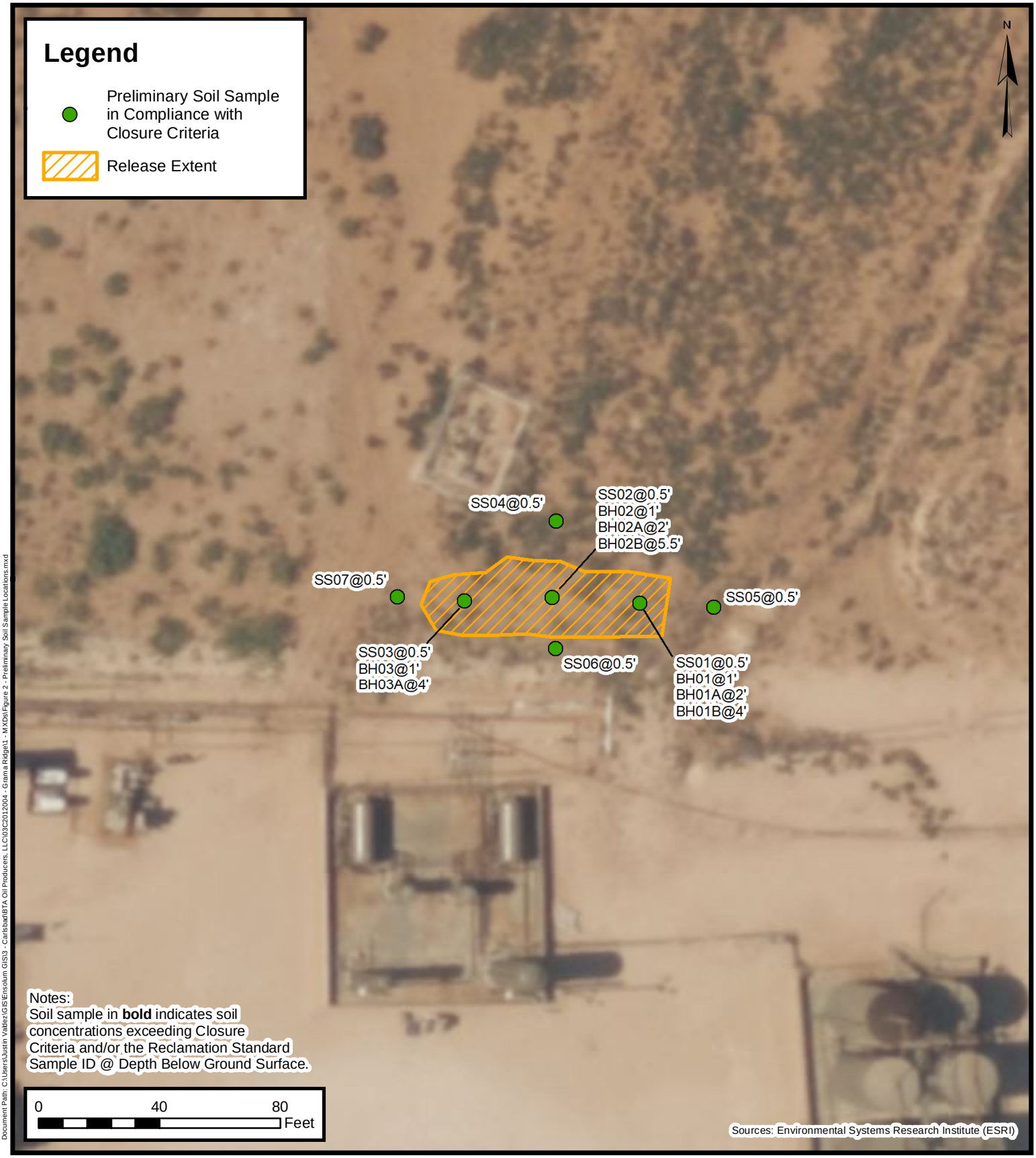
Site Receptor Map

BTA Oil Producers, LLC
Grama 8817 JV-P Federal Com #2H
nOY1704029358
Unit M, Sec 16, T22S, R34E
Lea County, New Mexico

FIGURE
1



Document Path: C:\Users\Justin Vatez\GIS\Ensolum GIS\3 - Carlsbad\BTA Oil Producers, LLC\03C2012004 - Grama Ridge\1 - MXDs\Figure 2 - Preliminary Soil Sample Locations.mxd

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Preliminary Soil Sample Locations

BTA Oil Producers, LLC
Grama 8817 JV-P Federal Com #2H
nOY1704029358
Unit M, Sec 16, T22S, R34E
Lea County, New Mexico

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Grama 8817 JV-P Federal Com #2H
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 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Delineation Soil Samples										
SS01	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH01	10/25/2022	1	<0.050	<0.300	<10.0	11.2	<10.0	11.2	11.2	16.0
BH01A	10/25/2022	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH01B	10/25/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS02	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH02	10/25/2022	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH02A	10/25/2022	4	<0.050	<0.300	<10.0	23.9	<10.0	23.9	23.9	<16.0
BH02B	10/25/2022	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS03	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH03	10/25/2022	1	<0.25	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH03A	10/25/2022	4	<0.25	<0.150	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS04	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS05	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS06	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS07	10/06/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

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APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	CP 00865 POD1	2	2	3	20	22S	34E	641845	3583118

Driller License: 421 **Driller Company:** GLENN'S WATER WELL SERVICE

Driller Name: GLENN, CLARK A."CORKY" (LD)

Drill Start Date:	08/22/1997	**Drill Finish Date:**	08/29/1997	**Plug Date:**	
Log File Date:	09/04/1997	**PCW Rcv Date:**	10/18/2013	**Source:**	Shallow
Pump Type:	SUBMER	**Pipe Discharge Size:**	2.875	**Estimated Yield:**	50 GPM
Casing Size:	6.63	**Depth Well:**	885 feet	**Depth Water:**	605 feet

Water Bearing Stratifications:	Top	Bottom	Description
	738	870	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	734	885

Meter Number:	800	**Meter Make:**	SEAMETRICS
Meter Serial Number:	062018004760	**Meter Multiplier:**	1.0000
Number of Dials:	9	**Meter Type:**	Diversion
Unit of Measure:	Barrels 42 gal.	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	Quarterly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
08/27/1999	1999	12170	A	fm		0	
09/27/1999	1999	18665	A	fm		1.993	
07/10/2000	2000	23573	A	mb	Initial reading Trn# 184947	0	
09/01/2000	2000	792	A	mb	Initial reading Trn# 189706	0	
10/09/2000	2000	3703	A	mb	Final reading Trn# 189706	0.893	
11/02/2000	2000	33323	A	mb	Final reading Trn# 184947	2.992	
07/23/2001	2001	35004	A	jw		9.606	
08/14/2001	2001	35550	A	jw		0.168	
09/16/2003	2004	44365	A	RPT		0	
02/13/2004	2004	54105	A	RPT		2.989	
05/28/2013	2013	301812	A	RPT	Initial reading	0	
10/07/2013	2013	494174	A	RPT		24.794	
11/11/2013	2013	627789	A	RPT		17.222	
01/01/2014	2014	775387	A	ap		1902.439	
04/01/2014	2014	1150295	A	ap		4832.312	
10/01/2014	2014	1395310	A	ap		3158.078	
01/01/2015	2015	2252908	A	ap		11053.861	
03/31/2015	2015	2496573	A	ap		3140.678	
06/01/2015	2015	2602349	A	ap		1363.381	
06/30/2015	2015	2632913	A	ap		393.949	

07/28/2015	2015	2657713	A	ap	319.655
08/31/2015	2015	2675935	A	ap	234.869
09/30/2015	2015	2685784	A	ap	126.947
10/30/2015	2015	2777793	A	ap	1185.934
11/30/2015	2015	2813732	A	ap	463.230
04/30/2016	2015	2902402	A	ap	1142.897
06/01/2016	2016	2949111	A	ap	602.048
07/30/2016	2016	3039470	A	ap	1164.667
09/01/2016	2016	3112223	A	ap	937.737
09/30/2016	2016	3233850	A	ap	1567.690
10/31/2016	2016	3310726	A	ap	990.880
12/01/2016	2016	3400370	A	ap	1155.451
12/31/2016	2016	3504124	A	ap	1337.319
02/01/2017	2017	3505049	A	ap	11.923
03/02/2017	2017	3549664	A	ap	575.057
03/31/2017	2017	3670149	A	ap	1552.971
05/01/2017	2017	3799022	A	ap	1661.086
05/31/2017	2017	3857500	A	ap	753.742
07/31/2017	2017	3902575	A	ap	580.986
10/31/2017	2017	4063882	A	ap	2079.139
11/30/2017	2017	4191565	A	ap	1645.748
12/30/2017	2017	4326964	A	ap	1745.202
01/30/2018	2018	4423832	A	ap	1248.563
02/28/2018	2018	4511456	A	ap	1129.414
03/30/2018	2018	4547266	A	ap	461.567
04/30/2018	2018	4658071	A	ap	1428.202
06/01/2018	2018	4766177	A	ap	1393.414
06/29/2018	2018	4790998	A	ap	319.926
07/31/2018	2018	4790998	A	ap	0
08/13/2018	2018	4791140	A	ap	1.830
08/13/2018	2018	0	A	ap	0
08/30/2018	2018	73947	A	ap	953.127
09/30/2018	2018	201617	A	ap	1645.580
11/30/2018	2018	443361	A	ap	3115.917

**YTD Meter Amounts:	Year	Amount
	1999	1.993
	2000	3.885
	2001	9.774
	2004	2.989
	2013	42.016
	2014	9892.829
	2015	19425.401
	2016	7755.792
	2017	10605.854
	2018	11697.540
	2019	0
	2020	0

Meter Number: 806 **Meter Make:** MASTER

Meter Serial Number: 1746627 **Meter Multiplier:** 100.0000

Number of Dials: 6 **Meter Type:** Diversion

Unit of Measure: Gallons **Return Flow Percent:**

Usage Multiplier: **Reading Frequency:**

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
01/01/1999	1999	12165	A	fm		0	
01/15/1999	1999	21665	A	fm		2.915	

**YTD Meter Amounts:	Year	Amount
	1999	2.915

Meter Number: 807 **Meter Make:** SEAMETRICS

Meter Serial Number: 10 200 191 **Meter Multiplier:** 1.0000

Number of Dials: 8 **Meter Type:** Diversion

Unit of Measure: Barrels 42 gal. **Return Flow Percent:**

Usage Multiplier: **Reading Frequency:** Monthly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
11/14/1999	1999	19858	A	fm		0	
12/14/1999	1999	21411	A	fm		0.477	
01/02/2019	2018	556195	A	RPT		0	
02/01/2019	2019	604855	A	RPT		6.272	
08/01/2019	2019	949138	A	RPT		44.376	
09/01/2019	2019	1061141	A	RPT		14.436	
09/30/2019	2019	1161966	A	RPT		12.996	
10/31/2019	2019	1259879	A	RPT		12.620	
11/30/2019	2019	1325382	A	RPT		8.443	
12/31/2019	2019	1325382	A	RPT		0	
02/01/2020	2020	1369756	A	RPT		5.720	
03/01/2020	2020	1488098	A	RPT		15.253	
04/01/2020	2020	1488098	A	RPT		0	
05/01/2020	2020	1488098	A	RPT		0	
06/01/2020	2020	1488098	A	RPT		0	
08/01/2020	2020	1488098	A	RPT		0	
08/01/2020	2020	0	A	RPT		0	
09/01/2020	2020	154	A	RPT		0.020	
10/01/2020	2020	154	A	RPT		0	
11/01/2020	2020	26213	A	WEB		3.359	X
12/01/2020	2020	144137	A	WEB		15.200	X
01/01/2021	2020	168842	A	WEB		3.184	X
01/31/2021	2021	204704	A	ad		0	
02/24/2021	2021	250418	A	ad		5.892	
02/24/2021	2021	0	A	ad		0	
02/28/2021	2021	479	A	ad		0.062	
03/31/2021	2021	77494	A	ad		9.927	
04/30/2021	2021	151907	A	ad		9.591	
05/31/2021	2021	260155	A	ad		13.952	
06/30/2021	2021	350984	A	ad		11.707	

07/31/2021	2021	390794	A	ad	5.131	
08/31/2021	2021	465926	A	ad	9.684	
09/30/2021	2021	584055	A	ad	15.226	
10/31/2021	2021	664994	A	ad	10.432	
11/30/2021	2021	756770	A	ad	11.829	
12/21/2021	2021	835364	A	ad	10.130	
01/31/2022	2022	933170	A	ad	12.607	
02/28/2022	2022	933713	A	ad	0.070	
03/31/2022	2022	933713	A	ad	0	
04/30/2022	2022	1158640	A	ad	28.992	
06/01/2022	2022	1158640	A	ad	0	
07/02/2022	2022	1158640	A	ad	0	
08/01/2022	2022	1448406	A	ad	37.349	
09/01/2022	2022	1448406	A	ad	0	
10/01/2022	2022	1458546	A	WEB	1.307	X
11/01/2022	2022	1615601	A	WEB	20.243	X

x

**YTD Meter Amounts:	Year	Amount
	1999	0.477
	2018	0
	2019	99.143
	2020	42.736
	2021	113.563
	2022	100.568

x

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APPENDIX B

Photographic Log

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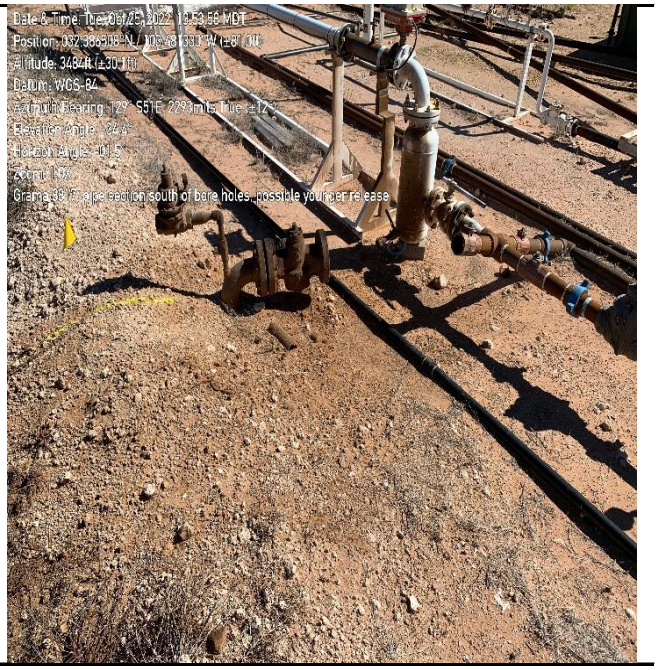
Photographic Log
BTA Oil Producers, LLC.
Grama Ridge Federal #2H
Incident Number: nOY1704029358

Photograph 1 Date: 10-25-22

Description: Photo of lines approaching release facing Northwest.



Photograph 2 Date: 10-25-22

Description: Photo of the source of release facing Northwest.

Photograph 3 Date: 10-25-22

Description: Photo of BH02 at a depth of 4'.

Photograph 4 Date: 10-25-22

Description: Photo of BH03 at a depth of 4'.

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APPENDIX C

Lithologic Soil Sampling Logs

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	Sample Name: BH01	Date: 10-25-22
	Site Name: Grama 8817 JV-P Federal Com #2H	
	Incident Number: nOY1704029358	
	Job Number: 03C2012004	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: C. Whitman	Method: Hand Auger
Coordinates: : 32.38522, -103.48183	Hole Diameter: 4"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	<168	168	Y	BH01	@ 1'	1'	SP	Very fine-grained sand w/ clay & silt, odor present
N	<168	145.6	N	BH01A	@ 2'	2'	SP	Very fine-grained sand w/ clay & silt, odor present
N	<168	36.1	N	BH01B	@ 4'	4'	SP	Very fine-grained sand w/ clay & silt, odor present Hit refusal after 4'

TD@4 ft bgs

ENSOLUM	Sample Name: BH02	Date: 10-25-22
	Site Name: Grama 8817 JV-P Federal Com #2H	
	Incident Number: nOY1704029358	
	Job Number: 03C2012004	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: C. Whitman	Method: Hand Auger
Coordinates: : 32.38522, -103.48183	Hole Diameter: 4"	Total Depth: 5.5'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	<168	16.9	N	BH02	@ 2'	2'	SP	Very fine-grained sand w/ clay & silt. Odor present.
N	<168	37.1	N	BH02A	@ 4'	4'	SP	Very fine-grained sand w/ clay & silt. Odor present.
N	<168	22.1	N	BH02B	@ 5.5'	5.5'	SP	Very fine-grained sand w/ clay & silt. Odor present. Hit refusal after 5.5'.

TD@5.5 ft bgs

ENSOLUM	Sample Name: BH03	Date: 10-25-22
	Site Name: Grama 8817 JV-P Federal Com #2H	
	Incident Number: nOY1704029358	
	Job Number: 03C2012004	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: C. Whitman	Method: Hand Auger
Coordinates: 32.38522, -103.48183	Hole Diameter: 4"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
N	<168	2.1	N	BH03	@ 1'	1'	SP	Very fine-grained sand w/ clay & silt. No odor present.
N	<168	4.5	N	BH03A	@ 4'	4'	SP	Very fine-grained sand w/ clay & silt. Odor present.

TD @4 ft bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

October 12, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAMA 8817 JV-P-FEDERAL COM #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/07/22 13:35.

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

Cardinal Laboratories is 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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 01 (H224725-01)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

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

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	10/11/2022	ND	384	96.0	400	4.08	

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	10/11/2022	ND	195	97.4	200	4.38	
DRO >C10-C28*	<10.0	10.0	10/11/2022	ND	192	96.1	200	12.6	
EXT DRO >C28-C36	<10.0	10.0	10/11/2022	ND					

Surrogate: 1-Chlorooctane *104 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *126 %* *46.3-178*

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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 02 (H224725-02)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/11/2022	ND	384	96.0	400	4.08	

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	10/10/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/10/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/10/2022	ND					

Surrogate: 1-Chlorooctane *89.6 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *97.0 %* *46.3-178*

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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 03 (H224725-03)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/11/2022	ND	384	96.0	400	4.08	

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	10/10/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/10/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/10/2022	ND					

Surrogate: 1-Chlorooctane *94.0 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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

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	**BILL TO**
Project Manager: HADLIE GREEN	P.O. #:
Address:	Company: BTA OIL
City: State: Zip:	Attn: BOO HALL
Phone #: 432-557-8895 Fax #:	Address: 104 S PECOS ST.
Project #: 03C2012004 Project Owner:	City: MIDLAND
Project Name: GRAMA 8817 JV-P-FEDERAL COM #3H	State: TX Zip: 79701
Project Location: NM	Phone #: 432-312-2203
Sampler Name: CONNER SHORE	Fax #:

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	ANALYSIS REQUEST: BTEX	TPH	Chloride
H224725																	
1	SS01	G	1			X					X		10.6.22	1230	X	X	X
2	SS02	G	1			X					X		10.6.22	1235	X	X	X
3	SS03	G	1			X					X		10.6.22	1240	X	X	X

10.6.22

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 consequental 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: 10-7-22 Time: 1335	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
			All Results are emailed. Please provide Email address: hgreen@ensolum.com
Relinquished By:	Date: Time:	Received By:	REMARKS:

Delivered By: (Circle One)	Observed Temp. °C 6.1	Sample Condition Cool: ☑ Yes Intact: ☑ Yes	CHECKED BY: (Initials) TO	Turnaround Time: 5-DAY Standard ☑ Rush ☐	Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No
Sampler - UPS - Bus - Other:	Corrected Temp. °C 5.5			Thermometer ID #113 Correction Factor -0.5°C	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

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

October 12, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAMA JVP FED. COM #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/07/22 13:35.

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

Cardinal Laboratories is 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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA JVP FED. COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 04 (H224726-01)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	10/11/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/10/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/10/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/10/2022	ND					

Surrogate: 1-Chlorooctane *81.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *87.2 %* *46.3-178*

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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA JVP FED. COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 05 (H224726-02)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/11/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/11/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/11/2022	ND					

Surrogate: 1-Chlorooctane *97.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *105 %* *46.3-178*

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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA JVP FED. COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 06 (H224726-03)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	10/11/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/11/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/11/2022	ND					

Surrogate: 1-Chlorooctane *97.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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:	10/07/2022	Sampling Date:	10/06/2022
Reported:	10/12/2022	Sampling Type:	Soil
Project Name:	GRAMA JVP FED. COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Tamara Oldaker
Project Location:	BTA - NM		

Sample ID: SS 07 (H224726-04)

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	10/11/2022	ND	2.01	100	2.00	1.09	
Toluene*	<0.050	0.050	10/11/2022	ND	2.01	100	2.00	0.403	
Ethylbenzene*	<0.050	0.050	10/11/2022	ND	1.96	97.9	2.00	0.492	
Total Xylenes*	<0.150	0.150	10/11/2022	ND	5.99	99.8	6.00	0.0446	
Total BTEX	<0.300	0.300	10/11/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/11/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/11/2022	ND	202	101	200	1.79	
DRO >C10-C28*	<10.0	10.0	10/11/2022	ND	207	103	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	10/11/2022	ND					

Surrogate: 1-Chlorooctane *97.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ENSOLUM	**BILL TO**
Project Manager: HADLIE GREEN	P.O. #:
Address:	Company: BTA OIL
City: State: Zip:	Attn: BOB HALL
Phone #: 432-557-8895 Fax #:	Address: 104 SPECO ST.
Project #: 03C2017004 Project Owner:	City: MIDLAND
Project Name: GAMMA JVP FED. COM #2H	State: TX Zip: 79701
Project Location: NM	Phone #: 432-312-2203
Sampler Name: CONNER STONE	Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST												
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chlorides												
H224726																												
1	SS04	G	1			X							10.6.22	1045	X	X	X											
2	SS05	G	1			X							10.6.22	1250	X	X	X											
3	SS06	G	1			X							10.6.22	1255	X	X	X											
4	SS07	G	1			X							10.6.22	1300	X	X	X											

10.6.22

Relinquished By:	Date: 10-7-22	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1335		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	hgreen@ensolum.com
	Time:		REMARKS:

Delivered By: (Circle One)	Observed Temp. °C 6.1	Sample Condition Cool ☑ Yes ☐ No	Intact ☑ Yes ☐ No	CHECKED BY: (Initials) T.O.	Turnaround Time: 5 DAY Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 5.5				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

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

October 31, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAMA 8817 JV-P-FEDERAL COM #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/26/22 14:30.

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

Cardinal Laboratories is 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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 01 1' (H225033-01)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.6 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	**11.2**	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *80.6 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *98.3 %* *46.3-178*

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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 01A 2' (H225033-02)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.2 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *86.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *103 %* *46.3-178*

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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 01B 4' (H225033-03)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *89.0 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *85.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum, LLC
Project Manager:	Hadlie Green
Address:	601 N. Marienfeld St. STE 400
City:	Midland State: TX Zip: 79701
Phone #:	432-557-8895 Fax #:
Project #:	03C2012004 Project Owner:
Project Name:	Gamma 8817
Project Location:	
Sampler Name:	Connor Whitman

BILL TO

P.O. #:	
Company:	BTA Oil
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.	Sample 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	TPH	Chlorides
H225033																		
1	BH01	1	G	1			✓					✓		10/25/22	1:05	✓	✓	✓
2	BH01A	2	G	1			✓					✓		″	1:10	✓	✓	✓
3	BH01B	4	G	1			✓					✓		″	1:20	✓	✓	✓

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 consequental 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: 10.26.22	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1430		All Results are emailed. Please provide Email address: BJennings@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS: hgreen@ensolum.com
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Observed Temp. °C 2.0 Corrected Temp. °C 1.4

Sample Condition: Cool ☑ Yes ☑ Intact ☑ Yes

CHECKED BY: (Initials)

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 3.2 10/07/21

† 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

October 31, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAMA 8817 JV-P-FEDERAL COM #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/26/22 14:30.

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

Cardinal Laboratories is 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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 02 2' (H225034-01)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.9 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *82.3 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *99.0 %* *46.3-178*

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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 02A 4' (H225034-02)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.9 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	**23.9**	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *82.0 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	10/31/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 02B 5.5' (H225034-03)

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	10/31/2022	ND	2.01	100	2.00	7.25	
Toluene*	<0.050	0.050	10/31/2022	ND	2.15	108	2.00	5.90	
Ethylbenzene*	<0.050	0.050	10/31/2022	ND	2.12	106	2.00	5.13	
Total Xylenes*	<0.150	0.150	10/31/2022	ND	6.36	106	6.00	5.33	
Total BTEX	<0.300	0.300	10/31/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.9 %* *69.9-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	10/28/2022	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	10/28/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *79.8 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *95.1 %* *46.3-178*

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
Project Manager:	Hadlie Green
Address:	601 N. Marienfeld St. STE 400
City:	Midland State: TX Zip: 79701
Phone #:	432-557-8895 Fax #:
Project #:	03C2012004 Project Owner:
Project Name:	Grama 8817
Project Location:	
Sampler Name:	Connor Whitman

BILL TO

P.O. #:	
Company:	BTA Oil
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.	Sample 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	TPH	Chlorides
H225034																		
1	BH02	2	G	1			✓					✓		10/25/22	11:50	✓	✓	✓
2	BH02A	4	G	1			✓					✓		10/25/22	12:00	✓	✓	✓
3	BH02B	5.5	G	1			✓					✓		10/25/22	12:45	✓	✓	✓

Relinquished By:	Date: 10-26-22	Received By:	
	Time: 1430		
Relinquished By:	Date:	Received By:	
	Time:		

Verbal Result: ☐ Yes ☐ No Add'l Phone #:

All Results are emailed. Please provide Email address:

BJennings@ensolum.com

REMARKS:

hgreen@ensolum.com

Delivered By: (Circle One)	Observed Temp. °C 2.0	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 1.4			Thermometer ID #113 Correction Factor -0.6°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

CARDINAL Laboratories

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

November 03, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAMA 8817 JV-P-FEDERAL COM #2H

Enclosed are the results of analyses for samples received by the laboratory on 10/26/22 14:30.

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

Cardinal Laboratories is 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,

Mike Snyder For 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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	11/03/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 03 1' (H225035-01)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/03/2022	ND	0.471	94.1	0.500	2.37	
Toluene*	<0.025	0.025	11/03/2022	ND	0.475	94.9	0.500	2.01	
Ethylbenzene*	<0.025	0.025	11/03/2022	ND	0.494	98.9	0.500	0.978	
Total Xylenes*	<0.075	0.075	11/03/2022	ND	1.51	101	1.50	1.51	
Total BTEX	<0.150	0.150	11/03/2022	ND					

Surrogate: Dibromofluoromethane	*94.6 %*	*86.7-111*
Surrogate: Toluene-d8	*97.4 %*	*89.3-110*
Surrogate: 4-Bromofluorobenzene	*103 %*	*88.2-108*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/29/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/29/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/29/2022	ND					

Surrogate: 1-Chlorooctane	*83.3 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*99.2 %*	*46.3-178*

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For 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:	10/26/2022	Sampling Date:	10/25/2022
Reported:	11/03/2022	Sampling Type:	Soil
Project Name:	GRAMA 8817 JV-P-FEDERAL COM #2H	Sampling Condition:	Cool & Intact
Project Number:	03C2012004	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - NM		

Sample ID: BH 03A 4' (H225035-02)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	10/29/2022	ND	1.86	92.9	2.00	0.962	
Toluene*	<0.025	0.025	10/29/2022	ND	1.82	91.0	2.00	2.50	
Ethylbenzene*	<0.025	0.025	10/29/2022	ND	1.89	94.4	2.00	0.623	
Total Xylenes*	<0.075	0.075	10/29/2022	ND	5.80	96.7	6.00	0.847	
Total BTEX	<0.150	0.150	10/29/2022	ND					

Surrogate: Dibromofluoromethane	*97.5 %*	*83.7-114*
Surrogate: Toluene-d8	*95.4 %*	*95.3-107*
Surrogate: 4-Bromofluorobenzene	*97.4 %*	*50.9-150*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/28/2022	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	10/29/2022	ND	220	110	200	0.785	
DRO >C10-C28*	<10.0	10.0	10/29/2022	ND	222	111	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	10/29/2022	ND					

Surrogate: 1-Chlorooctane	*81.4 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*97.5 %*	*46.3-178*

Cardinal Laboratories *=Accredited Analyte

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

CARDINAL Laboratories

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

Notes and Definitions

S-05	The surrogate recovery is outside of lab established statistical control 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

Mike Snyder For 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, LLC
Project Manager: Hadlie Green
Address: 601 N. Marienfeld St. STE 400
City: Midland State: TX Zip: 79701
Phone #: 432-557-8895 Fax #:
Project #: 03C201004 Project Owner: BTA
Project Name: Grama 8817
Project Location:
Sampler Name: Connor Whitman

BILL TO
P.O. #:
Company: BTA Oil
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.	Sample 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	TPH	Chloride
H225035																		
1	BH03	1	G	1			/					/		10:35	10/25/22	/	/	/
2	BH03A	4	G	1			/					/		10:50	10/25/22	/	/	/

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 consequental 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: Connor Whitman Date: 10.26.22 Time: 1430 Received By: S Rodriguez
Relinquished By: Date: Time: Received By:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 2.0 Corrected Temp. °C 1.4
Sample Condition: Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No
CHECKED BY: (Initials) SR

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
BJennings@ensolum.com
REMARKS:
hgreen@ensolum.com
Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #113 Correction Factor -0.5°C SR 10/26/22
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ Nc Intact ☐ Yes ☐ 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

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APPENDIX E

NMOCD Notifications

OCD Permitting

NOY1704029358 GRAMA 88 17 N-P FEDERAL COM #2H @ 30-025-43426

General Incident Information

Site Name:	GRAMA 88 17 N-P FEDERAL COM #2H		
Well:	[30-025-43426] GRAMA 8817 JV-P FEDERAL COM #002H		
Facility:			
Operator:	[260297] BTA OIL PRODUCERS, LLC		
Status:	Closure Not Approved	**Severity:**	Minor
Type:	Oil Release	**Surface Owner:**	State
District:	Hobbs	**County:**	Lea (25)
Incident Location:	M-16-22S-34E 330 FSL 380 FWL		
Lat/Long:	32.385353,-103.482312 NAD83		
Directions:			

Notes

Source of Referral:	Industry Rep	**Action / Escalation:**	
Resulted In Fire:	☐	**Will or Has Reached Watercourse:**	☐
Endangered Public Health:	☐	**Property Or Environmental Damage:**	☐
Fresh Water Contamination:	☐		

Contact Details

Contact Name:	**Contact Title:**

Event Dates

Date of Discovery:	01/11/2017	**OCD Notified of Release:**	01/11/2017
Extension Date:	11/15/2018		
Initial C-141 Received:	02/09/2017	**Cancelled Date:**	
Characterization Report Received:		**Characterization Report Approved:**	
Remediation Plan Received:		**Remediation Plan Approved:**	
		Remediation Due:	12/16/2022
Closure Report Received:		**Closure Report Approved:**	

Compositional Analysis of Vented and/or Flared Natural Gas

No Compositional Analysis Found

Incidents Materials

Cause	Source	Material	Volume Unk.	Volume Released	Volume Recovered	Volume Lost	Units
Equipment Failure	Separator	Crude Oil	☐	5	0	5	BBL

Quic
- Gene
- Mater
- Event
- Order

Assc
- Incide
- Well I

New
- New I
- New I
- New (
- New I
- New S
- New T
- New V

09/15/2022	1RP-4590 has been closed. Please refer to incident #NOY1704029358 for all future correspondence.
09/15/2022	The C-141 closure report submitted on 11/10/2021 states "The release is located on top of a historical pit area. Remediation activities will be addressed at time of pit reclamation." If the pit has been reclaimed please provide a closure report including information regarding the remediation of the release. If the pit has not been reclaimed and a deferral request needs to be submitted, page 5 of the C-141 must be completed. A deferral will only be approved if all conditions are met per 19.15.29 NMAC.
09/15/2022	Please submit a revised closure report or deferral request though the OCD permitting portal by 12/16/2022.
09/15/2022	Please include a scaled diagram that shows the potentially impacted area, significant surface features including roads and site infrastructure, location of borings, sample points, monitoring wells and subsurface features such as known pipelines to the extent known at the time of submittal including the source of information regarding subsurface features.
09/15/2022	An application [61120] was submitted to OCD for review. It was submitted, indicating that it was an: [C-141] Application for administrative approval of a release notification and corrective action The operator was emailed confirmation of this event.
11/10/2021	The (09/15/2022, C-141) application [61120] was assigned to this incident.
02/09/2017	1RP-4590. Lost supply to separator. Mist over pasture. Location is south of battery, SE of well. Lat/long: 32. 385229, -103. 48183.

Orders

1RP-4590-0

Applicant:	[49915] BTA OIL PROD & SUN OPER LTD PART		
Contact:		**Approved By:**	
Reviewer:	Olivia Yu	**Issuing Office:**	Hobbs

Processing Dates

Received:	01/23/2017	**Ordered:**	02/09/2017
Approved:	02/09/2017	**Denied:**	
Expiration:		**Cancelled:**	

From: Bob Hall <BHall@btaoil.com>
Sent: Thursday, September 15, 2022 3:09 PM
To: Bob Hall
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 61120

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, September 15, 2022 10:26 AM
To: Bob Hall <BHall@btaoil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 61120

To whom it may concern (c/o Bob Hall for BTA OIL PRODUCERS, LLC),

The OCD has rejected the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nOY1704029358,
for the following reasons:

- **Please include a scaled diagram that shows the potentially impacted area, significant surface features including roads and site infrastructure, location of borings, sample points, monitoring wells and subsurface features such as known pipelines to the extent known at the time of submittal including the source of information regarding subsurface features.**
- **The C-141 closure report submitted on 11/10/2021 states "The release is located on top of a historical pit area. Remediation activities will be addressed at time of pit reclamation." If the pit has been reclaimed please provide a closure report including information regarding the remediation of the release. If the pit has not been reclaimed and a deferral request needs to be submitted, page 5 of the C-141 must be completed. A deferral will only be approved if all conditions are met per 19.15.29 NMAC.**
- **Please submit a revised closure report or deferral request though the OCD permitting portal by 12/16/2022.**
- **1RP-4590 has been closed. Please refer to incident #NOY1704029358 for all future correspondence.**

The rejected C-141 can be found in the OCD Online: Permitting - Action Status, under the Application ID: 61120.
Please review and make the required correction(s) prior to resubmitting.
If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional C-141.

Thank you,
Brittany Hall
Environmental Specialist - A

505-334-6178
Brittany.Hall@state.nm.us

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

ENSOLUM

APPENDIX F

Final C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

Form C-1
Revised March 17, 1

Submit 2 Copies to appropri
District Office in accorda
with Rule 116 on b
side of fc

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	BTA Oil Producers LLC	Contact	Pam Inskeep
Address	104 S. Pecos, Midland, TX 79701	Telephone No.	(432) 682-3753
Facility Name	Grama 8817 JV-P Federal Com #2H 30-025-43426 32.385229, -103.481830	Facility Type	O/G battery

Surface Owner State of NM	Mineral Owner	Lease No. NMNM82799

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	16	22S	34E	330	South	380	West	Lea

NATURE OF RELEASE

Type of Release	Minor	Volume of Release 5 BO	Volume Recovered 0
Source of Release	release from separator	Date and Hour of Occurrence 4:50 pm 1/11/2017	Date and Hour of Discovery 4:50 pm 1/11/2017
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required		If YES, To Whom? Olivia Yu – NMOCD Carlsbad BLM, Shelly Tucker	
By Whom?	Pam Inskeep	Date and Hour	5:30 pm 1/11/2017
Was a Watercourse Reached? ☐ Yes ☒ No		If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

RECEIVED
By Olivia Yu at 7:58 am, Feb 09, 2017

Describe Cause of Problem and Remedial Action Taken.*

Lost supply to the separator, released fine mist of oil from top of separator. Some of the mist drifted to the pasture directly adjacent to the battery.

Will wash and clean with heated water, detergent, and possible bio agent. Will remove any affected soil and dispose of at an approved waste facility.

Describe Area Affected and Cleanup Action Taken.*

See above explanation

GPS coordinates ~50 m SE of well; ~60 m S of battery.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Pam Inskeep	OIL CONSERVATION DIVISION
Printed Name: Pam Inskeep	Approved by ~~District Supervisor~~:
Title: Regulatory Administrator	Approval Date: 2/9/2017 Expiration Date:
Date: 01/13/2017 Phone: (432) 682-3753	Conditions of Approval: see attached directive Attached ☑

* Attach Additional Sheets If Necessary

1RP-4590

nOY1704029358

pOY1704029518

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _1/23/2017__ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-__4590_ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _3/9/2017_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

State of New Mexico
Oil Conservation Division

Incident ID	nOY1704029358
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>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.

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State of New Mexico
Oil Conservation Division

Incident ID	nOY1704029358
District RP	
Facility ID	
Application ID	

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

Printed Name: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: 2/14/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 02/14/2023

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State of New Mexico
Oil Conservation Division

Incident ID	nOY1704029358
District RP	
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Bob Hall Title: Environmental Manager

Signature: BHall Date: 2/14/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 02/14/2023

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: Brittany Hall Date: 2/20/2023

Printed Name: Brittany Hall Title: Environmental Specialist

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 186250

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 186250
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	2/20/2023