ENSOLUM

January 5, 2023

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

Re: Closure Request
Rojo B Poly Line Rupture
Incident Number nAPP2216138632
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Rojo B Poly Line Rupture (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a produced water release at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, BTA is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2216138632.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit C, Section 22, Township 25 South, Range 33 East, in Lea County, New Mexico (32.12237°N, 103.56097°W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On June 9, 2022, a poly flowline used to transfer produced water ruptured, resulting in the release of approximately 28 barrels (bbls) of produced water onto the surrounding pasture and right-of-way (ROW). A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 5 bbls of produced water were recovered. BTA reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) via email on June 9, 2022 and submitted a *Release Notification Form C-141* (Form C-141) on June 10, 2022. The release was assigned Incident Number nAPP2216138632.

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 benteath the Site is estimated to be between 50 feet to 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On Janurary 3, 2023, a borehole (BH01) was advanced to a depth of 78 feet bgs via air rotary drill rig. The borehole was located approximately 0.05 miles northwest of the Site and is depicted on Figure 1. A field

geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix A.

During drilling activities, the geologist did not observe soil conditions consistent with being in a saturated zone indicative of the groundwater table. The borehole did collapse to 69 feet bgs due to loose sands caving in. While at the time submitting this Closure Request the boring has not beopen for at least 72 hours, Ensolum does believe observations made by the geologist are accurate. As such, Ensolum estimates the depth to groundwater beneath the Site to be greater than 69 feet bgs.

Ensolum will observe the open boring after the 72-hour to confirm the absence of groundwater. In the event groundwater is present, BTA will notify NMOCD and discuss further actions if necessary. Following the 72-hour waiting period, the borehole will be properly abandoned using drill cuttings and hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1.

The closest continuously flowing or significant watercourse to the Site is an intermittent riverine, located approximately 7,577 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On June 17, 2022, Ensolum personel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Four assessment soil samples (SS01 through SS04) were collected within the release extent at a depth of approximately 0.5 feet bgs. 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 release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental

Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500.

Laboratory analytical results for preliminary soil samples SS01 through SS04, collected within the release extent, indicated all COC concentrations were compliant with the Closure Criteria and reclamation requirement; however, additional delineation activities still appeared to be warranted.

DELINEATION ACTIVITIES AND ANALYTICAL RESULTS

Between June 30 and September 9, 2022, Ensolum personnel were at the Site to perform delineation activities. Four boreholes (BH01 through BH04) were advanced via hand-auger at the respective locations of preliminary soil samples SS01 through SS04. Two discrete delineation soil samples BH01/BH01A through BH04/BH04A were collected from the boreholes at depths ranging from 1-foot bgs to 3 feet bgs. Soil from the delineation samples was field screened for VOCs and chloride. Field screening results and observations from the boreholes were documented on lithologic/soil sampling logs, which are included as Appendix C. The boreholes were backfilled with soil removed. Additionally, four delineation soil samples (SS05 through SS08) were collected around the release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. The boreholes and delineation soil sample locations are depicted in Figure 3. A photographic log is included in Appendix B.

Laboratory analytical results for delineation soil samples SS05 through SS08, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results for delineation samples from boreholes BH01, BH03, and BH04, collected at depths ranging from 1-foot bgs to 3 feet bgs, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results for delineation samples collected from BH02/BH02A, collected at 2 feet and 3 feet bgs, respectively, indicated chloride concentrations exceeded the reclamation requirement applied in the top 4 feet. Laboratory analytical results are summarized in Table 1 and the complete analytical reports are included as Appendix D.

EXCAVATION ACTIVITIES AND ANALYTICAL RESULTS

Upon completion of delineation activities, impacted soil was excavated as indicated by laboratory analytical results for borehole BH02. Excavation activities were performed using a hydrovac and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a depth of 4 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 and FS02 were collected from the floor of the excavation at a depth of 4 feet bgs. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The excavation soil samples were handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 4.

Laboratory analytical results for excavation samples FS01, FS02, and SW01, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for excavation sidewall sample SW02 indicated that chloride concentrations exceeded the reclamation requirement. Additional soil was removed in areas composited for confirmation soil sample SW02 and a subsequent sidewall confirmation sample (SW03) collected from the final excavation extent. Laboratory analytical results for confirmation sample SW03 indicated all COC concentrations were compliant with the Closure

Criteria and reclamation requirements. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

The excavation measured approximately 382 square feet in areal extent. A total of approximately 57 cubic yards of impacted soil was removed during excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the June 9, 2022, produced water release. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and/or the reclamation requirements. Based on the soil sample analytical results, no further remediation appears to be required. BTA will backfill the excavation with material purchased locally and recontour the Site to match pre-existing Site conditions and reseed utilizing a BLM-approved seed mixture.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater is estimated to be greater than 78 feet bgs based on a recent soil boring and no other sensitive receptors were identified near the release extent. BTA believes remedial actions completed to-date are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2216138632. The required NMOCD notifications are included as Appendix E and the Final 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
Bureau of Land Management

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation 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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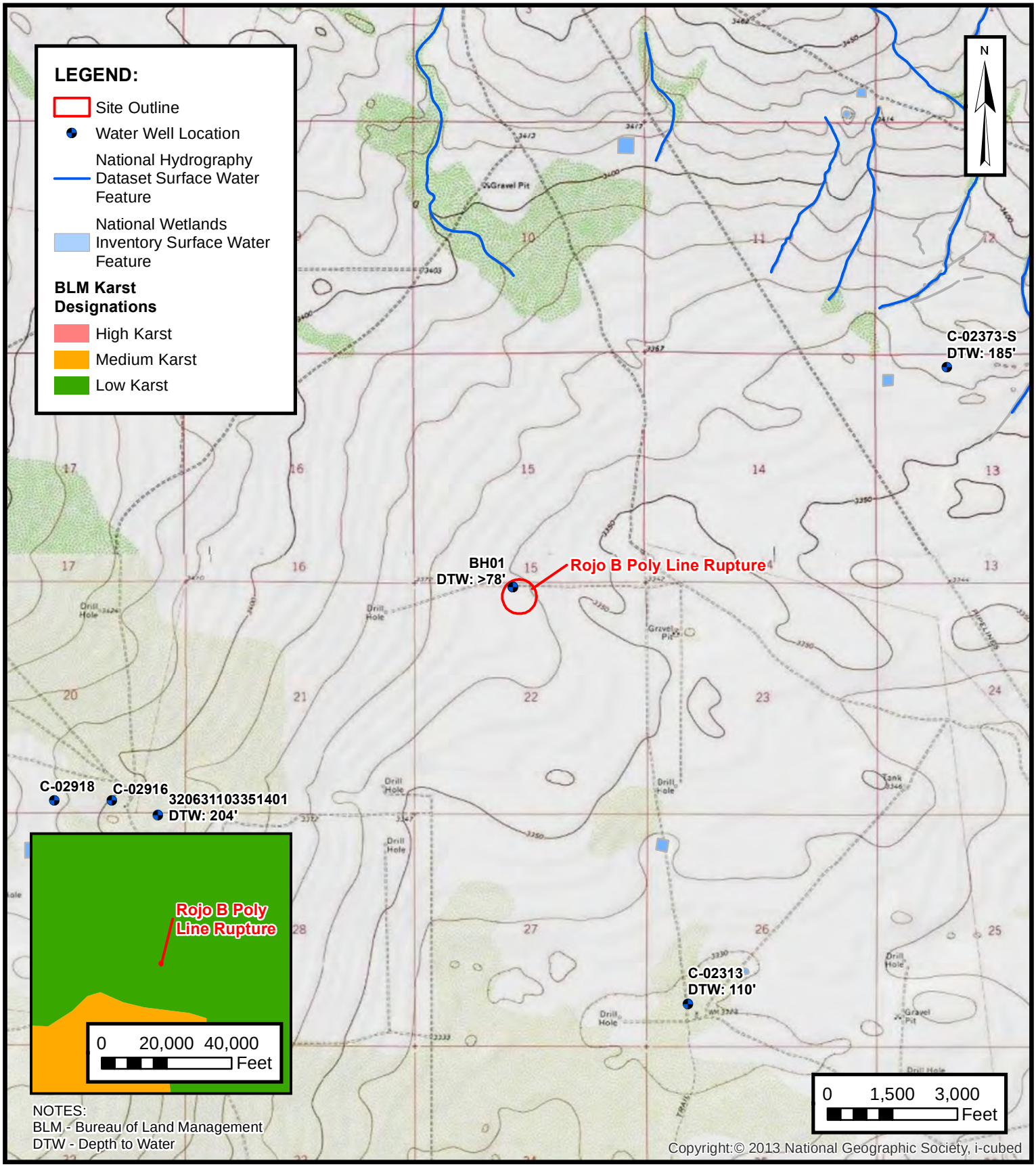
FIGURES



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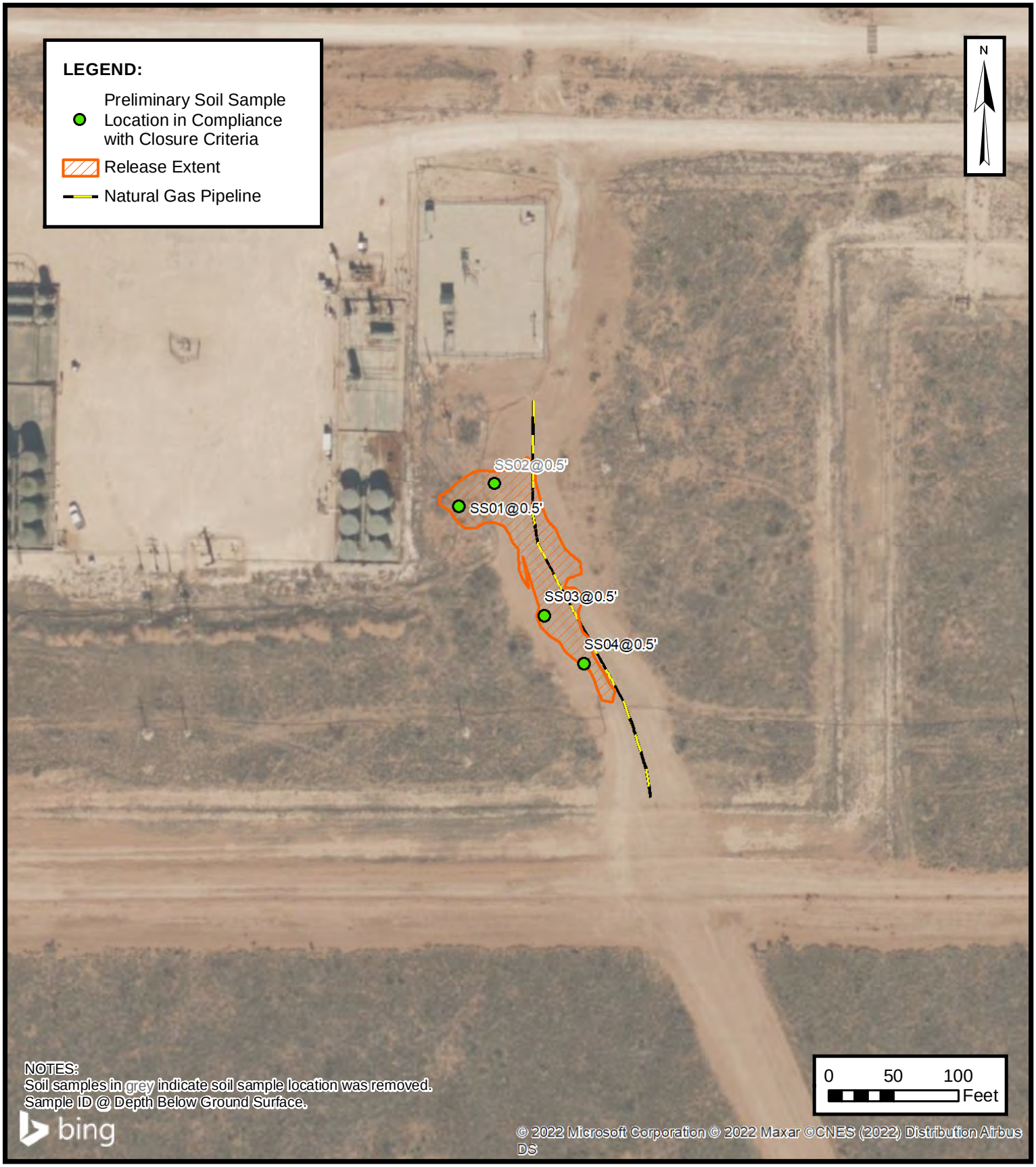
SITE RECEPTOR MAP

BTA OIL PRODUCERS, LLC
ROJO B POLY LINE RUPTURE
NAPP2216138632
Unit C Sec 22 T25S R33E
Lea County, New Mexico

FIGURE
1



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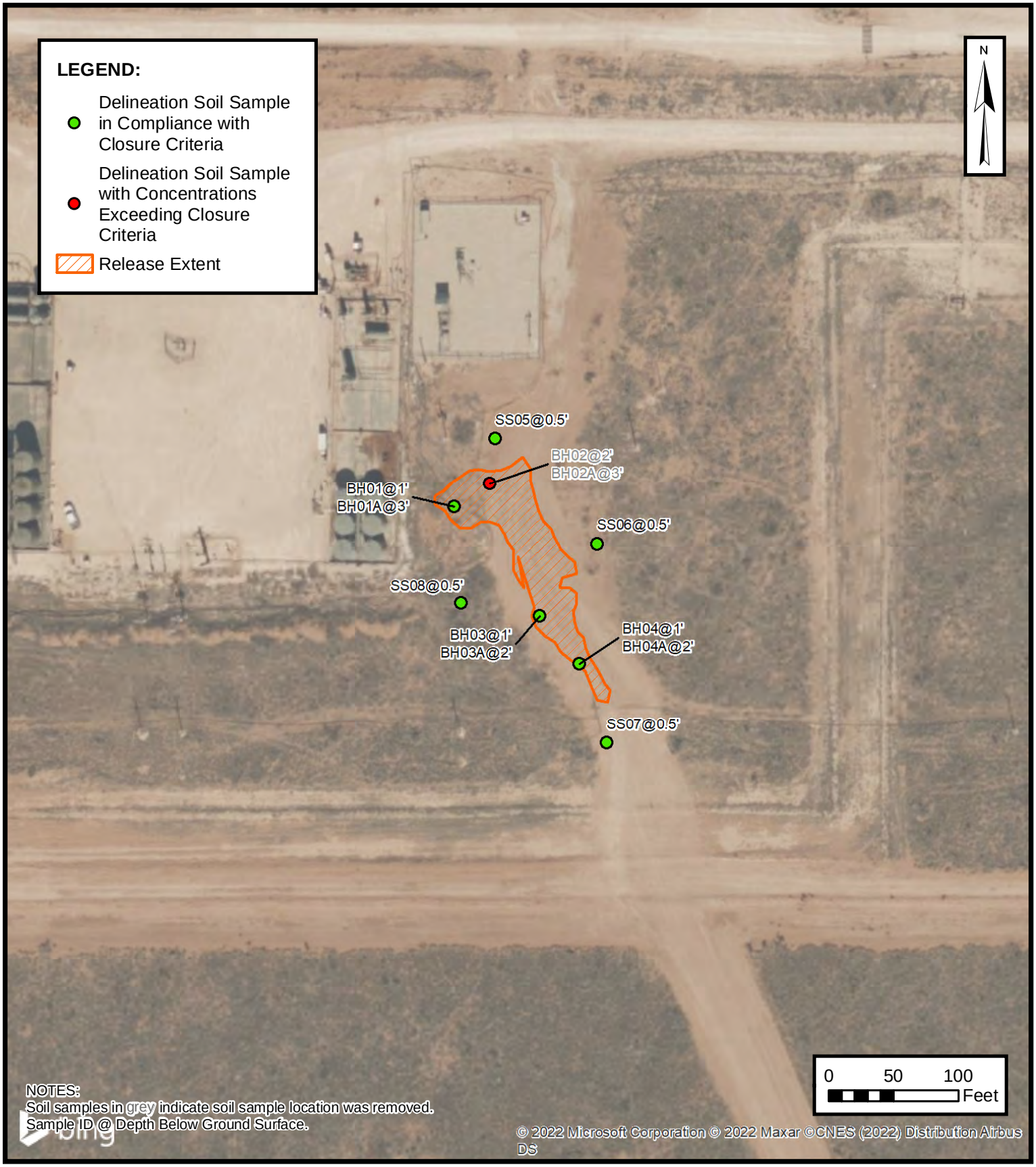
PRELIMINARY SOIL SAMPLE LOCATIONS

BTA OIL PRODUCERS, LLC
ROJO B POLY LINE RUPTURE
nAPP2216138632
Unit C Sec 22 T25S R33E
Lea County, New Mexico

FIGURE
2



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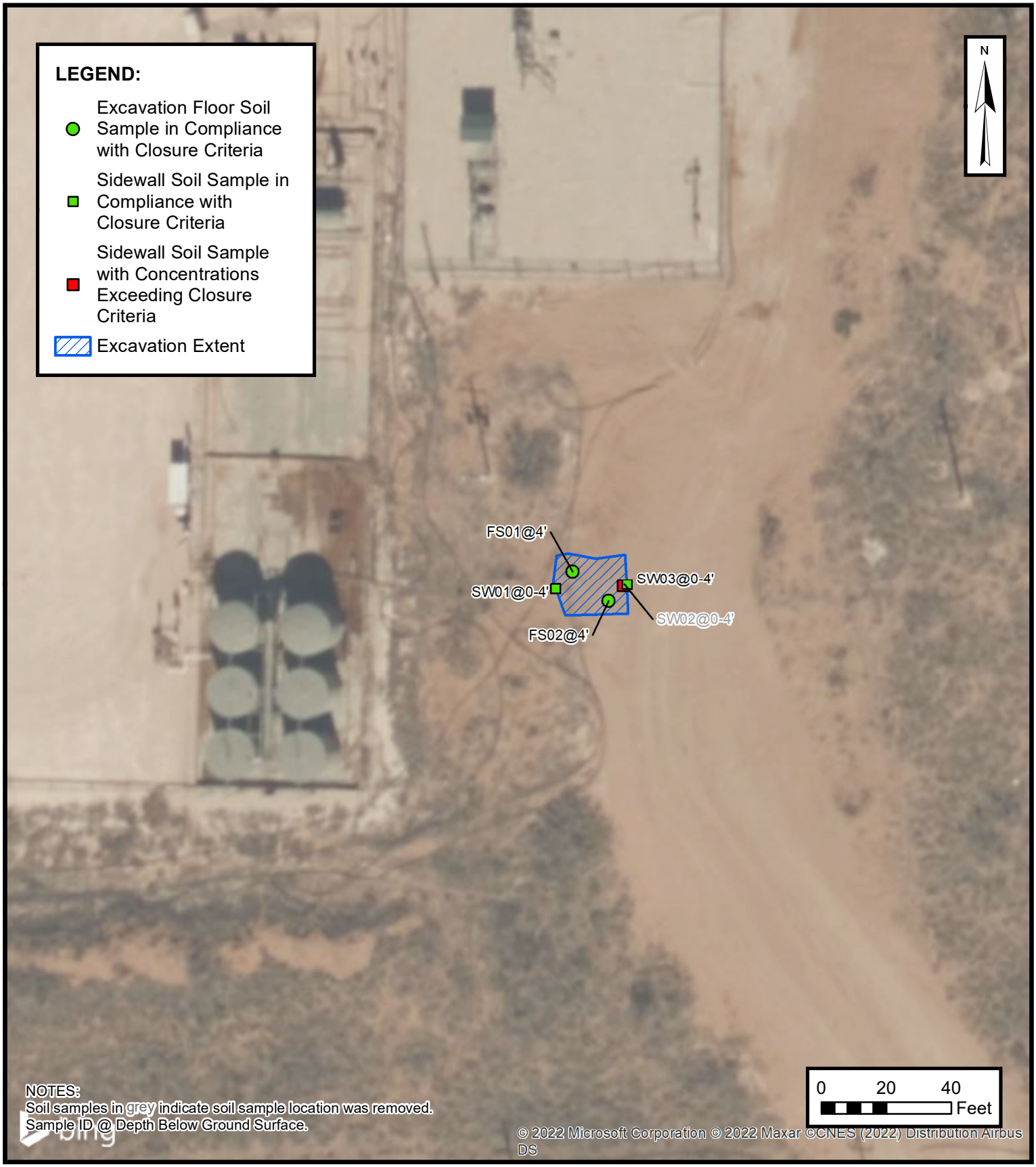
DELINEATION SOIL SAMPLE LOCATIONS

BTA OIL PRODUCERS, LLC
ROJO B POLY LINE RUPTURE
nAPP2216138632
Unit C Sec 22 T25S R33E
Lea County, New Mexico

FIGURE
3



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EXCAVATION SOIL SAMPLE LOCATIONS

BTA OIL PRODUCERS, LLC
ROJO B POLY LINE RUPTURE
nAPP2216138632
Unit C Sec 22 T25S R33E
Lea County, New Mexico

FIGURE
4

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Rojo B Poly Line Rupture
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	10,000
Preliminary Soil Samples										
SS01	06/17/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0*
SS02	06/17/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0*
SS03	06/17/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
SS04	06/17/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*
SS05	09/09/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0*
SS06	09/09/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0*
SS07	09/09/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
SS08	09/09/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
Delineation Soil Samples										
BH01	06/30/2022	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0*
BH01A	06/30/2022	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0*
BH02	06/30/2022	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624*
BH02A	06/30/2022	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,360*
BH03	06/30/2022	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
BH03A	06/30/2022	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
BH04	06/30/2022	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
BH04A	06/30/2022	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*
Excavation Floor Soil Samples										
FS01	09/09/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
FS02	09/09/2022	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,600
Excavation Sidewall Soil Samples										
SW01	09/09/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304*
SW02	09/09/2022	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	832*
SW03	09/26/2022	0 - 4	<0.050	<0.050	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0*

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
* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard for chloride in the top 4 feet is 600 mg/kg
Gray text represents samples that have been excavated

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APPENDIX A

Referenced Well Records

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

Comments: Soil boring was advanced to a total depth of 87' bgs. No water was observed.

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

Total Depth @ 78 feet bgs

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 320631103351401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

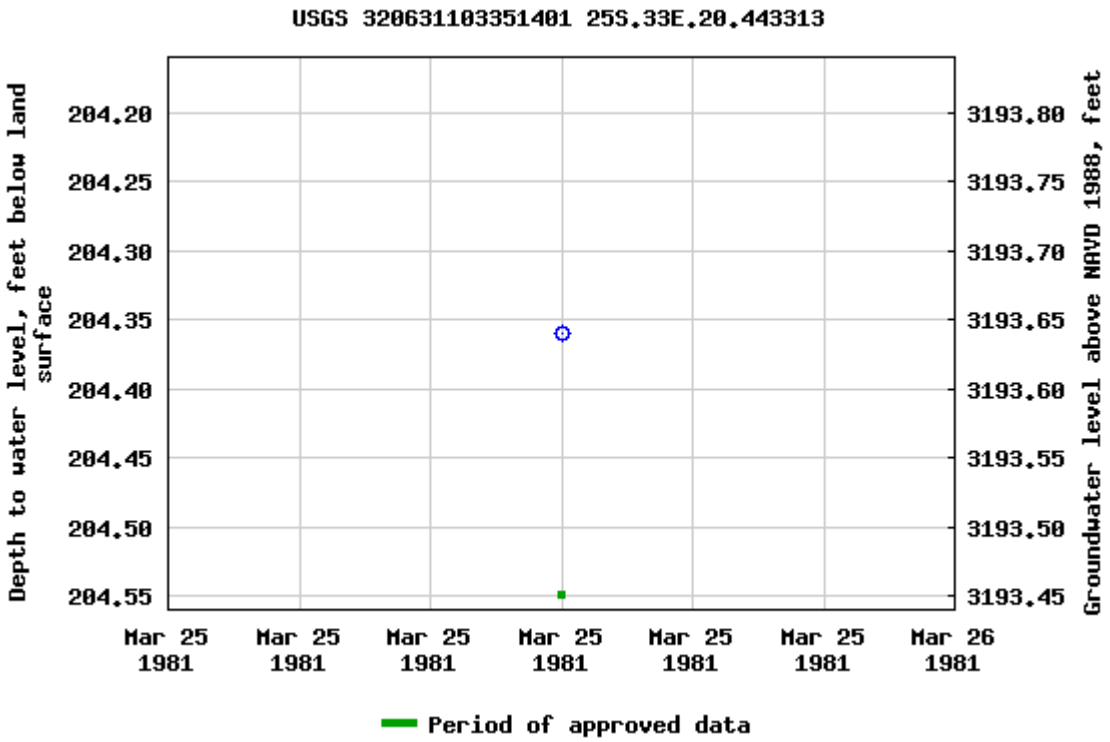
USGS 320631103351401 25S.33E.20.443313

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°06'31", Longitude 103°35'14" NAD27
Land-surface elevation 3,398 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
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Data Tips
Explanation of terms
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Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-07-12 16:38:53 EDT
0.72 0.65 nadww01

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320631103351401

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

USGS 320631103351401 25S.33E.20.443313

Lea County, New Mexico
Latitude 32°06'31", Longitude 103°35'14" NAD27
Land-surface elevation 3,398 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1981-03-25		D	62610		3192.01	NGVD29	1	Z		
1981-03-25		D	62611		3193.64	NAVD88	1	Z		
1981-03-25		D	72019	204.36			1	Z		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined

Section	Code	Description
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
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Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-07-12 16:40:14 EDT
0.36 0.31 nadww01

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
	C 02313	2	3	3	26	25S	33E	636971	3552098*

Driller License: **Driller Company:**

Driller Name: UNKNOWN

Drill Start Date:	01/01/1925	**Drill Finish Date:**	06/30/1925	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	60 GPM
Casing Size:	6.88	**Depth Well:**	150 feet	**Depth Water:**	110 feet

***UTM location was derived from PLSS - see Help**

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APPENDIX B

Photographic Log

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Photographic Log
BTA Oil Producers, LLC
Rojo B Poly Line Rupture
nAPP2216138632

Photograph: 1 Date: 8/22/2022
Description: Soil staining in release footprint
View: Northwest

Photograph: 2 Date: 7/1/2022
Description: Delineation activities
View: Northwest

Photograph: 3 Date: 9/7/2022
Description: Excavation activities
View: Northwest

Photograph: 4 Date: 9/9/2022
Description: Excavation activities
View: Northwest

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APPENDIX C

Lithologic Soil Sampling Logs

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	Sample Name: **BH01**	Date: **7/1/2022**
	Site Name: **Rojo B Poly Line Rupture**	
	Incident Number: **nAPP2216138632**	
	Job Number: 03C2012002	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Hand Auger
Coordinates: **32.122391, -103.561098**	Hole Diameter: 4"	Total Depth: **3'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	SM	SILTY SAND, light reddish brown, fine grain with caliche gravel, no staining, no odor.
M	414.4	1.7	N	BH01	1	1		SAA
M	576.8	1.0	N			2		SAA
M	<168	0.6	N	BH01A	3	3		SAA

TD @ 3 feet bgs

ENSOLUM

	Sample Name: **BH02**	Date: **7/1/2022**
	Site Name: **Rojo B Poly Line Rupture**	
	Incident Number: **nAPP2216138632**	
	Job Number: 03C2012002	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Hand Auger
Coordinates: **32.122440, -103.561010**	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
						0	SM	SILTY SAND, light reddish brown, fine grain with caliche gravel, no staining, no odor.
M	772.8	0.5	N			1		SAA
M	1,282.4	1.3	N	BH02	2	2		SAA
M	576.8	0.0	N	BH02A	3	3		SAA
M	924	0.0	N			4		SAA

TD @ 4 feet bgs

ENSOLUM

	Sample Name: **BH03**	Date: **7/1/2022**
	Site Name: **Rojo B Poly Line Rupture**	
	Incident Number: **nAPP2216138632**	
	Job Number: 03C2012002	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Hand Auger
Coordinates: **32.122163, -103.560887**	Hole Diameter: 4"	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	SM	SILTY SAND, light reddish brown, fine grain with caliche gravel, no staining, no odor.
M	<168	0.8	N	BH03	1	1		SAA
M	<168	0.2	N	BH03A	2	2		SAA

TD @ 2 feet bgs

ENSOLUM

	Sample Name: **BH04**	Date: **7/1/2022**
	Site Name: **Rojo B Poly Line Rupture**	
	Incident Number: **nAPP2216138632**	
	Job Number: 03C2012002	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Hand Auger
Coordinates: **32.122063, -103.560790**	Hole Diameter: 4"	Total Depth: **2'**

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
						0	SM	SILTY SAND, light reddish brown, fine grain with caliche gravel, no staining, no odor.
M	<168	0.9	N	BH04	1	1		SAA
M	<168	0.2	N	BH04A	2	2		SAA

TD @ 2 feet bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

June 21, 2022

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO B // NAPP2216138632

Enclosed are the results of analyses for samples received by the laboratory on 06/17/22 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	06/17/2022	Sampling Date:	06/17/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	ROJO B // NAPP2216138632	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 01 (H222606-01)

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	06/20/2022	ND	1.88	94.1	2.00	0.751	
Toluene*	<0.050	0.050	06/20/2022	ND	1.89	94.6	2.00	0.552	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.81	90.4	2.00	1.25	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.62	93.7	6.00	1.62	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	06/21/2022	ND	416	104	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	06/20/2022	ND	193	96.3	200	2.05	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	197	98.5	200	7.46	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane *118 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *134 %* *59.5-142*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	06/17/2022	Sampling Date:	06/17/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	ROJO B // NAPP2216138632	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 02 (H222606-02)

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	06/20/2022	ND	1.88	94.1	2.00	0.751	
Toluene*	<0.050	0.050	06/20/2022	ND	1.89	94.6	2.00	0.552	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.81	90.4	2.00	1.25	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.62	93.7	6.00	1.62	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	06/21/2022	ND	416	104	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	06/20/2022	ND	193	96.3	200	2.05	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	197	98.5	200	7.46	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane *116 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *131 %* *59.5-142*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	06/17/2022	Sampling Date:	06/17/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	ROJO B // NAPP2216138632	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 03 (H222606-03)

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	06/20/2022	ND	1.88	94.1	2.00	0.751	
Toluene*	<0.050	0.050	06/20/2022	ND	1.89	94.6	2.00	0.552	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.81	90.4	2.00	1.25	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.62	93.7	6.00	1.62	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/21/2022	ND	416	104	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	06/20/2022	ND	193	96.3	200	2.05	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	197	98.5	200	7.46	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane *116 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *130 %* *59.5-142*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	06/17/2022	Sampling Date:	06/17/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	ROJO B // NAPP2216138632	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 04 (H222606-04)

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	06/20/2022	ND	1.88	94.1	2.00	0.751	
Toluene*	<0.050	0.050	06/20/2022	ND	1.89	94.6	2.00	0.552	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.81	90.4	2.00	1.25	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.62	93.7	6.00	1.62	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.1 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	06/21/2022	ND	416	104	400	3.92	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2022	ND	193	96.3	200	2.05	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	197	98.5	200	7.46	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane *128 %* *66.9-136*

Surrogate: 1-Chlorooctadecane *151 %* *59.5-142*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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: Tacoma Morrissey	**P.O. #:**
Address: 3122 National Parks Hwy	**Company:** BTA Oil
City: Carlsbad **State:** NM **Zip:** 88220	**Attn:** Bob Hall
Phone #: 337-257-8307 **Fax #:**	**Address:** 104 S Pecos St
Project #: 03C2012002 **Project Owner:**	**City:** Midland
Project Name: Rojo B // NAPP2216138632	**State:** TX **Zip:** 79701
Project Location: Lea County	**Phone #:** 432-312-2203
Sampler Name: Chris Brown	**Fax #:**

ANALYSIS REQUEST

T.O. 6/17/22

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	SAMPLING TIME	Chloride (EPA 300) 4500	TPH (EPA 8015)	BTEX (EPA 8021)
H222606																	
1	SS01	G	1				X						6-17-22	0830	X	X	X
2	SS02	G	1				X						6-17-22	835	X	X	X
3	SS03	G	1				X						6-17-22	845	X	X	X
4	SS04	G	1				X						6-17-22	840	X	X	X

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:** 6-17-22 **Time:** 1410	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
			All Results are emailed. Please provide Email address:
Relinquished By:	**Date:** **Time:**	**Received By:**	**REMARKS:**

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 2.9 Corrected Temp. °C 2.4	**Sample Condition** Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	**CHECKED BY: (Initials)** T.O.	**Turnaround Time:** Standard ☒ Rush ☐ Thermometer ID #113 Correction Factor -0.5°C

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

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

July 08, 2022

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO B POLY LINE

Enclosed are the results of analyses for samples received by the laboratory on 07/06/22 10:40.

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

Cardinal Laboratories is 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

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 01 @ 1' (H222874-01)

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	07/07/2022	ND	2.04	102	2.00	6.03	QM-07, QR-03
Toluene*	<0.050	0.050	07/07/2022	ND	2.02	101	2.00	7.13	QR-03
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.03	101	2.00	6.38	QR-03
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.17	103	6.00	6.01	QR-03
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.1 %* *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	**80.0**	16.0	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *113 %* *43-149*

Surrogate: 1-Chlorooctadecane *120 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 01 A @ 3' (H222874-02)

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	07/07/2022	ND	2.04	102	2.00	6.03	
Toluene*	<0.050	0.050	07/07/2022	ND	2.02	101	2.00	7.13	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.03	101	2.00	6.38	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.17	103	6.00	6.01	
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *90.0 %* *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	**48.0**	16.0	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *101 %* *43-149*

Surrogate: 1-Chlorooctadecane *106 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 02 @ 2' (H222874-03)

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	07/07/2022	ND	2.04	102	2.00	6.03	
Toluene*	<0.050	0.050	07/07/2022	ND	2.02	101	2.00	7.13	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.03	101	2.00	6.38	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.17	103	6.00	6.01	
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.7 %* *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	**624**	16.0	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *68.0 %* *43-149*

Surrogate: 1-Chlorooctadecane *70.0 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 02 A @ 3' (H222874-04)

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	07/07/2022	ND	2.04	102	2.00	6.03	
Toluene*	<0.050	0.050	07/07/2022	ND	2.02	101	2.00	7.13	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.03	101	2.00	6.38	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.17	103	6.00	6.01	
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.4 %* *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	**2360**	16.0	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *122 %* *43-149*

Surrogate: 1-Chlorooctadecane *126 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 03 @ 1' (H222874-05)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2022	ND	2.18	109	2.00	7.07	
Toluene*	<0.050	0.050	07/07/2022	ND	2.21	110	2.00	6.37	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.25	112	2.00	7.14	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.85	114	6.00	6.64	
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *108 %* *43-149*

Surrogate: 1-Chlorooctadecane *112 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 03 A @ 2' (H222874-06)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2022	ND	2.18	109	2.00	7.07	
Toluene*	<0.050	0.050	07/07/2022	ND	2.21	110	2.00	6.37	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.25	112	2.00	7.14	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.85	114	6.00	6.64	
Total BTEX	<0.300	0.300	07/07/2022	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	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *84.0 %* *43-149*

Surrogate: 1-Chlorooctadecane *85.0 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 04 @ 1' (H222874-07)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2022	ND	2.18	109	2.00	7.07	
Toluene*	<0.050	0.050	07/07/2022	ND	2.21	110	2.00	6.37	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.25	112	2.00	7.14	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.85	114	6.00	6.64	
Total BTEX	<0.300	0.300	07/07/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *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	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/08/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/08/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/08/2022	ND					

Surrogate: 1-Chlorooctane *108 %* *43-149*

Surrogate: 1-Chlorooctadecane *115 %* *42.5-161*

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
TACOMA MORRISSEY
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	07/06/2022	Sampling Date:	06/30/2022
Reported:	07/08/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE	Sampling Condition:	Cool & Intact
Project Number:	03C2012002	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA - LEA CO NM		

Sample ID: BH 04 A @ 2' (H222874-08)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/07/2022	ND	2.18	109	2.00	7.07	
Toluene*	<0.050	0.050	07/07/2022	ND	2.21	110	2.00	6.37	
Ethylbenzene*	<0.050	0.050	07/07/2022	ND	2.25	112	2.00	7.14	
Total Xylenes*	<0.150	0.150	07/07/2022	ND	6.85	114	6.00	6.64	
Total BTEX	<0.300	0.300	07/07/2022	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	07/07/2022	ND	416	104	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/07/2022	ND	194	97.0	200	7.20	
DRO >C10-C28*	<10.0	10.0	07/07/2022	ND	173	86.7	200	1.32	
EXT DRO >C28-C36	<10.0	10.0	07/07/2022	ND					

Surrogate: 1-Chlorooctane *88.4 %* *43-149*

Surrogate: 1-Chlorooctadecane *91.7 %* *42.5-161*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	Ensolum
Project Manager:	Tacoma Morrissey
Address:	3122 National Parks Hwy
City:	Carlsbad State: NM Zip: 88220
Phone #:	3372578307 Fax: N/A
Project #:	03C2012002 Project Owner: BTA
Project Name:	ROJO B Poly Line
Project Location:	
Sampler Name:	Liz Cheli

BILL TO

P.O. #:	N/A
Company:	Ensolum
Attn:	Tacoma Morrissey
Address:	3122 Natl. Parks Hwy
City:	Carlsbad
State:	NM Zip: 88220
Phone #:	3372578307
Fax #:	N/A

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: TO: 7/6/22 DATE	TIME	BTEX	Chloride	TPH
H222874																	
1	BH01 @1'	G	1			✓					✓		7/30/22	1015	↓	↓	↓
2	BH01A @3'	↓	↓			↓					↓		↓	1045			
3	BH02 @2'													1030			
4	BH02A @3'													1100			
5	BH03 @1'													1115			
6	BH03A @2'													1120			
7	BH04 @1'													1125			
8	BH04A @2'	↓	↓			↓					↓		↓	1130	↓	↓	↓

Relinquished By:	Date: 7/6/22 Time: 10:40	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 28°c Corrected Temp. °C 23°c	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: ☑ Standard ☐ Rush Thermometer ID #113 Correction Factor -0.5°C

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

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

September 15, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO

Enclosed are the results of analyses for samples received by the laboratory on 09/12/22 15:10.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SW 01 (H224191-01)

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	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *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	**304**	16.0	09/14/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *95.0 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SW 02 (H224191-02)

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	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.9 %* *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	**832**	16.0	09/14/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *92.3 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *100 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: FS 01 (H224191-03)

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	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	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	**560**	16.0	09/14/2022	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *84.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *92.3 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: FS 02 (H224191-04)

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	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	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	**3600**	16.0	09/14/2022	ND	400	100	400	0.00	QM-07

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *87.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *94.5 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 05 (H224191-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	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	**48.0**	16.0	09/14/2022	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *91.4 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *99.4 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 06 (H224191-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	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	09/14/2022	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *94.9 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *101 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 07 (H224191-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *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	09/14/2022	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *89.0 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *96.9 %* *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:	09/12/2022	Sampling Date:	09/09/2022
Reported:	09/15/2022	Sampling Type:	Soil
Project Name:	ROJO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SS 08 (H224191-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2022	ND	1.80	90.1	2.00	8.10	
Toluene*	<0.050	0.050	09/14/2022	ND	2.01	100	2.00	10.1	
Ethylbenzene*	<0.050	0.050	09/14/2022	ND	1.98	98.9	2.00	11.4	
Total Xylenes*	<0.150	0.150	09/14/2022	ND	6.05	101	6.00	12.3	
Total BTEX	<0.300	0.300	09/14/2022	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	09/14/2022	ND	400	100	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/14/2022	ND	216	108	200	0.528	
DRO >C10-C28*	<10.0	10.0	09/14/2022	ND	215	108	200	0.846	
EXT DRO >C28-C36	<10.0	10.0	09/14/2022	ND					

Surrogate: 1-Chlorooctane *107 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *118 %* *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

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

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** P.O. #:	
Project Manager:	Hadlie Green	Company:	BTA Oil
Address:	3122 National Parks	Attn:	Bob Hall
City:	Carlsbad State: NM Zip: 8822	Address:	
Phone #:	432-557-8895 Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	Rojo	Phone #:	
Project Location:		Fax #:	
Sampler Name:			

ANALYSIS REQUEST: CHL, BTX, TPH

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
H22491														
1	SW01	G	1			X							9-9	1440
2	SW02		1											1445
3	FS01		1											1435
4	FS02		1											1430
5	SS05		1											750
6	SS06		1											945
7	SS07		1											1000
8	SS08		1											0955

Relinquished By:	Date: 9-12-22 Time: 1510	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #: All Results are emailed. Please provide Email address:
Relinquished By:	Date: Time:	Received By:	REMARKS:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 6.0 Corrected Temp. °C 5.4	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TO	Turnaround Time: ☐ Standard ☑ Rush Thermometer ID #113 Correction Factor -0.6°C

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

FORM-006 R 3.3 07/18/22

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

CARDINAL Laboratories

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

September 28, 2022

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO B POLY LINE RUPTURE

Enclosed are the results of analyses for samples received by the laboratory on 09/26/22 13:10.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	09/26/2022	Sampling Date:	09/26/2022
Reported:	09/28/2022	Sampling Type:	Soil
Project Name:	ROJO B POLY LINE RUPTURE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - LEA CO NM		

Sample ID: SW 03 0-4' (H224454-01)

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	09/27/2022	ND	1.88	94.2	2.00	9.74	
Toluene*	<0.050	0.050	09/27/2022	ND	1.83	91.4	2.00	9.07	
Ethylbenzene*	<0.050	0.050	09/27/2022	ND	1.76	88.1	2.00	10.2	
Total Xylenes*	<0.150	0.150	09/27/2022	ND	5.43	90.4	6.00	10.2	
Total BTEX	<0.300	0.300	09/27/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.1 %* *69.9-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/27/2022	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/27/2022	ND	201	101	200	2.36	
DRO >C10-C28*	<10.0	10.0	09/27/2022	ND	209	105	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	09/27/2022	ND					

Surrogate: 1-Chlorooctane *95.4 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *111 %* *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

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

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

		BILL TO	
Company Name:	Ensolum, LLC	P.O. #:	
Project Manager:	HADLIE GREEN	Company:	BTA OIL
Address:	601 N. Marienfeld St. STE 400	Attn:	BOB HALL
City:	Midland	State: TX Zip: 79701	Address: 104 S PECOS ST
Phone #:	432-557-8895	Fax #:	City: MIDLAND
Project #:		Project Owner:	State: TX Zip: 79701
Project Name:	ROJO B POLY LINE RUPTURE		Phone #: 432-312-2203
Project Location:			Fax #:
Sampler Name:	HADLIE GREEN		

FOR LAB USE ONLY					MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST												
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	CHLORIDES	TPH	BTEX											
H224454																													
~~SW03~~	SW03	0 - 4	C	1			X					X		9-26-22	0945	X	X	X											

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: 9-26-22	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Hadlie Green	Time: 1310	Tamara Oldaker	All Results are emailed. Please provide Email address: BJennings@ensolum.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 5.4	Sample Condition Cool ☑ Yes Intact ☑ Yes	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 4.8	☐ No ☐ No	TO	Thermometer ID #113 Correction Factor -0.5°C

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

TO: 9/26/22

FORM-006 R 3.2 10/07/21

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Nobui, Jennifer, EMNRD
To: Hadlie Green
Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: FW: [EXTERNAL] BTA - Sampling Notification - Week of August 29th - September 2nd
Date: Monday, August 29, 2022 10:33:28 AM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Hadlie

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

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Sent: Monday, August 29, 2022 8:06 AM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>
Subject: Fw: [EXTERNAL] BTA - Sampling Notification - Week of August 29th - September 2nd

---

From: Hadlie Green <hgreen@ensolum.com>
Sent: Friday, August 26, 2022 1:34 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; bhall@btaoil.com <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of August 29th - September 2nd

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

All,

BTA anticipates collecting confirmation samples at the following locations the week of August 29, 2022.

- Maddox Fed B #1 Well Site / Incident Number NAPP2211065721
  - GPS: 32.34997, -103.44293
- Rojo B Poly Line Rupture / Incident Number nAPP2216138632
  - GPS: 32.12237, -103.56097

Thank you,

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

From: Nobui, Jennifer, EMNRD
To: Hadlie Green
Cc: Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: FW: [EXTERNAL] BTA - Sampling Notification - Week of September 5th - September 9th
Date: Wednesday, August 31, 2022 5:16:23 PM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Hadlie

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

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Sent: Wednesday, August 31, 2022 3:58 PM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Velez, Nelson, EMNRD <Nelson.Velez@state.nm.us>
Subject: Fw: [EXTERNAL] BTA - Sampling Notification - Week of September 5th - September 9th

---

From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, August 31, 2022 3:28 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of September 5th - September 9th

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

All,

BTA anticipates collecting confirmation samples at the following location the week of September 5, 2022.

- Rojo B Poly Line Rupture / Incident Number nAPP2216138632
  - GPS: 32.12237, -103.56097

Thank you,

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

ENSOLUM

APPENDIX F

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	nAPP2216138632
District RP	
Facility ID	fAPP2135453995
Application ID	

Release Notification

Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2216138632
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

Location of Release Source

Latitude: 32.12237 Longitude: -103.56097
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Rojo B Poly Line Rupture	Site Type: Tank Battery
Date Release Discovered: 6/9/2022	API# *(if applicable)* Nearest well:

Unit Letter	Section	Township	Range	County
C	22	25S	33E	Lea

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 28 BBL	Volume Recovered (bbls) 5 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Rupture in a poly flowline used to transfer produced water.

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2216138632
District RP	
Facility ID	fAPP2135453995
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Spill volume is greater than 25 BBL of fluid.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:

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

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

Printed Name: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: 6/10/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 06/10/2022

Location Rojo B Poly Water Line Rupture
API #
Spill Date 6/9/2022

Spill Dimensions

ENTER - Length of Spill	62	**feet**
ENTER - Width of Spill	62	**feet**
ENTER - Saturation Depth of Spill	2	**inches**
ENTER - Porosity Factor	0.2	**decimal**

Oil Cut - Well Test / Vessel Throughput or Contents

Oil	0.00001
Water	99.9999
Calculated Oil Cut	1E-07

Volume Recovered in Truck / Containment

ENTER - Recovered Oil	0	**BBL**
ENTER - Recovered Water	5	**BBL**

Calculated Values	*calculated*	
Release of Oil in Soil - Unrecovered	0	***BBL***
Release of Water in Soil - Unrecovered	23	***BBL***
Unrecovered Total Release	23	***BBL***

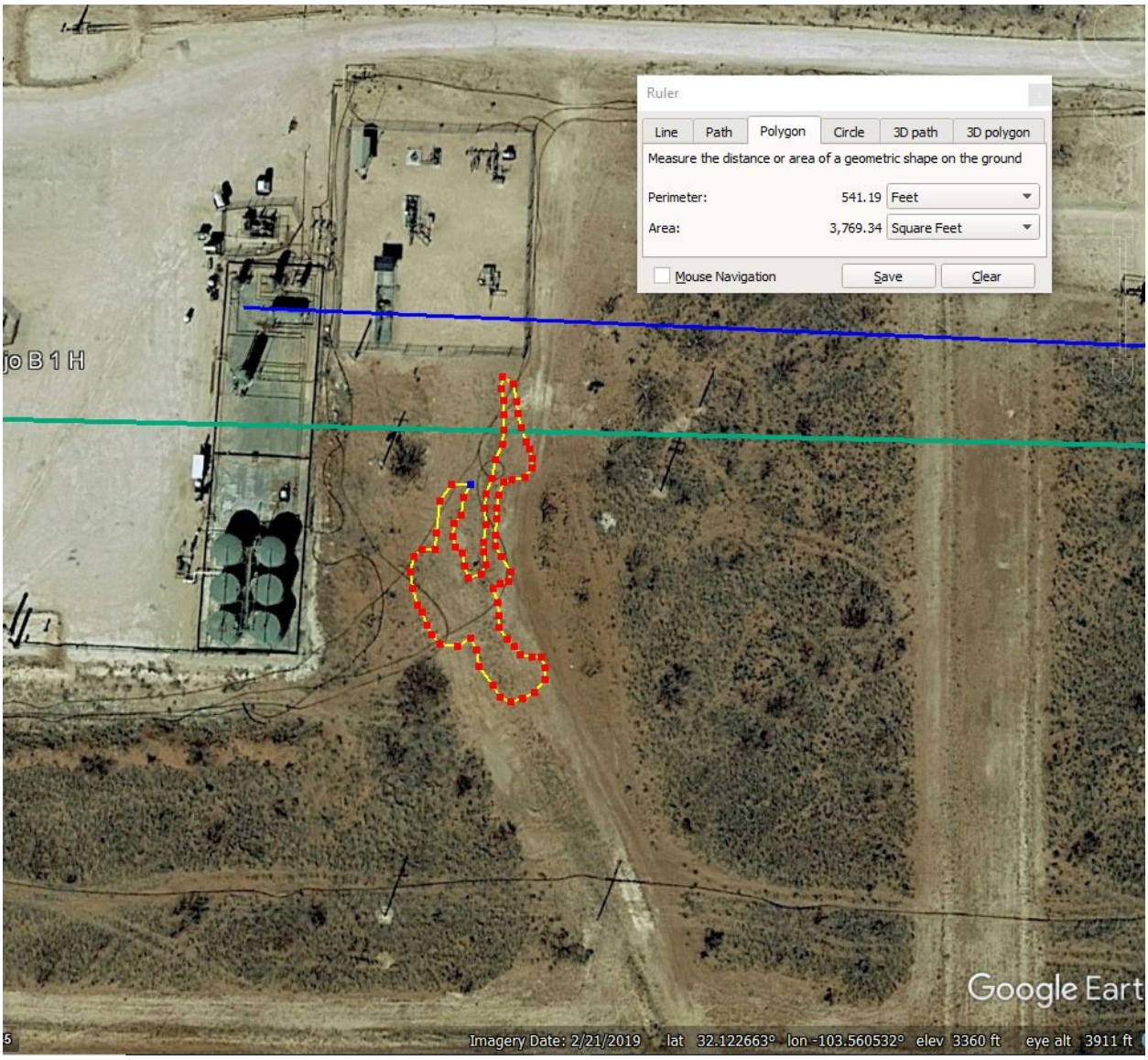
Calculated Values	*calculated*	
Total Release of Oil	0	***BBL***
Total Release of Water	28	***BBL***
Total Release	28	***BBL***

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

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

NAPP2216138632

Rojo B Tank Battery (fAPP2135453995)
Poly Line Rupture – Produced Water Release
6/9/2022



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District IV
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 115851
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	6/10/2022

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2216138632
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?	50-100 (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	nAPP2216138632
District RP	
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: ~~1/5/20223~~ 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	nAPP2216138632
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

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Printed Name: Bob Hall Title: Environmental Manager

Signature: BHall Date: ~~1/5/2023~~ 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: Jennifer Nobui Date: 02/24/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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1625 N. French Dr., Hobbs, NM 88240
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CONDITIONS

Action 186220

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 186220
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	2/24/2023