



June 9, 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 D 7811 JV P Com #003H  
Incident Number nOY1814130699  
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 and soil sampling activities performed at the Rojo D 7811 JV P Com #003H (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a historical release of produced water and crude oil within an earthen berm containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, BTA is submitting this *Closure Request*, describing Site assessment and delineation activities that have occurred and requesting closure for Incident Number nOY1814130699.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit B, Section 22, Township 25 South, Range 33 East, in Lea County, New Mexico (32.122719°, -103.55869°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On May 14, 2018, a water dump valve malfunctioned and cut a hole in the earthen berm containment, resulting in the release of approximately 18 barrels (bbls) of produced water and 9 bbls of crude oil into the containment. The dump valve was fixed upon discovery of the release. BTA reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) via email on May 14, 2018, and submitted a *Release Notification Form C-141* (Form C-141) on May 21, 2018. The release was assigned Incident Number nOY1814130699.

**SITE CHARACTERIZATION AND CLOSURE CRITERIA**

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

Depth to groundwater at the Site is estimated to be between 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is a soil boring permitted by the New Mexico Office of the State Engineer (NMOSE)

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as file number C-04699-POD1, located approximately 850 feet west of the Site. The soil boring was drilled to a maximum depth of 78 feet bgs, during which groundwater was not encountered. The soil boring was subsequently plugged following approved NMOSE methods. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an riverine, located approximately 7,532 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 diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

## DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On May 26, 2023, Ensolum personnel visited the Site to conduct Site assessment activities. No visible indications of the historical release were observed during the Site visit. Four soil samples (SS01 through SS04) were collected from within the earthen berm containment, to assess for the presence or absence of impacted soil. Delineation soil samples were collected at a depth of approximately 0.5 feet bgs. In addition, four soil samples (SS05 through SS08) were collected around the earthen berm containment from a depth of 0.5 feet bgs to assess the lateral extent of the inferred release area. Soil from the delineation samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations from the Site were logged on lithologic soil sampling logs, which are included as Appendix B. The earthen berm containment and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted at the Site. A photographic log is included in Appendix C.

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

Laboratory analytical results for all delineation soil samples SS01 through SS08, collected at 0.5 feet bgs indicated all COC concentrations were compliant with the Site Closure Criteria. In addition, SS05 through SS08 successfully defines the lateral extent of the inferred release area.

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On June 1, 2023, Ensolum personnel revisited the Site to conduct additional delineation activities related to the historical release. Four delineation boreholes (SS01D through SS04D) were advanced via hand-auger to a depth of 4 feet bgs within the inferred release area to further confirm the absence of impacted soil. Delineation soil samples were collected from each borehole at 4 feet bgs. Soil from the delineation boreholes was field screened for VOCs and chloride. Field screening results and observations for the boreholes are included in Appendix B. The soil samples were collected, handled, and analyzed following the same procedures as described above. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results for delineation soil samples SS01D through SS04D indicated all COC concentrations were compliant with the Site Closure Criteria and vertically delineated to the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

## CLOSURE REQUEST

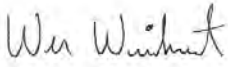
Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the May 14, 2018, produced water and crude oil release. Laboratory analytical results for all delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, soil samples SS05 through SS08 indicated all COC concentrations were compliant with the most stringent Table 1 Closure Criteria, and successfully defined the lateral extent of the inferred release area.

Based on soil sample laboratory analytical results compliant with the Site Closure Criteria and depth to groundwater between 50 feet and 100 feet bgs, no additional remediation was required. As such, BTA respectfully requests closure for Incident Number nOY1814130699. Notifications submitted to the NMOCD are included in Appendix E and the final Form C-141 is included in Appendix F.

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

Sincerely,  
**Ensolum, LLC**



Wes Weichert, PG  
Project Geologist



Tacoma Morrissey  
Senior Geologist

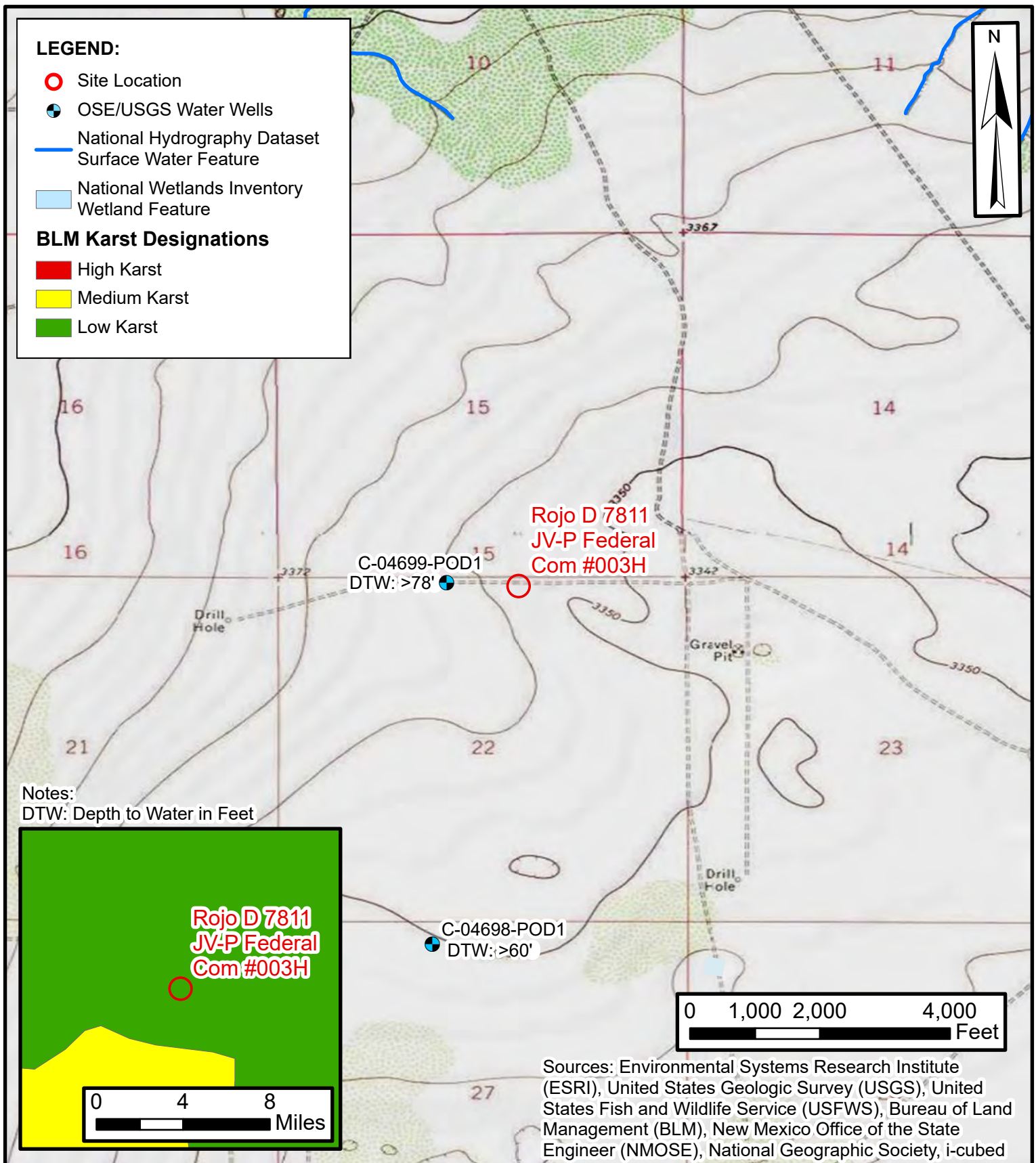
cc: Kelton Beaird, BTA  
Nathan Sirgo, BTA  
BLM

Appendices:

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



FIGURES



## Site Receptor Map

Rojo D 7811 JV-P Federal Com #003H

BTA Oil Producers, LLC

Incident Number: nOY1814130699

Unit B, Sec 22, T25S, R33E

Lea County, New Mexico

FIGURE

1





## Delineation Soil Sample Locations

Rojo D 7811 JV-P Federal Com #003H

BTA Oil Producers, LLC

Incident Number: nOY1814130699

Unit B, Sec 22, T25S, R33E

Lea County, New Mexico

FIGURE

2



TABLES





**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Rojo D 7811 JV-P Com #003H  
 BTA Oil Producers, LLC  
 Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Delineation Soil Samples										
SS01	05/26/2023	0.5	<0.050	<0.300	<10.0	44.8	164	44.8	209	32.0
SS01D	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS02	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS02D	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS03	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03D	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS04	05/26/2023	0.5	<0.050	<0.300	<10.0	86.7	517	86.7	604	32.0
SS04D	06/01/2023	4	<0.050	<0.300	<10.0	10.7	13.0	10.7	23.7	32.0
SS05	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	20.6	<10.0	20.6	64.0
SS06	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS07	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS08	05/26/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0

## Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics


TPH: Total Petroleum Hydrocarbon




## 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			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS / MR		Method: Air Rotary	
Coordinates: 32.123027, -103.561391								Hole Diameter: 6"		Total Depth: 78'	
Comments: Soil boring was advanced to a total depth of 87' bgs. No water was observed within the soil boring after at least 72 hours. On 1/5/2023 the soil boring was plugged and abandoned using hydrated bentonite chips.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	CCHE	(0-30'), CALICHE, coarse grain, well graded, white to tan, dry, no stain or odor.			
Dry	-	-	N	-	-	10					
Dry	-	-	N	-	-	20		@20' color change to pink/tan			
Dry	-	-	N	-	-	30	SP-SM	(30-78'), SAND, medium to fine grain, poorly graded with trace caliche nodules, red to orange, dry, no stain, no odor.			
Dry	-	-	N	-	-	40					
Dry	-	-	N	-	-	50		@50', slightly cohesive with trace clay			
Dry	-	-	N	-	-	60					
Dry	-	-	N	-	-	70		@70', less clache nodules			
Dry	-	-	N	-	-	78		NOTE: refusal @ 78' using air rotary drill rig due to abundant sand. Borehole collapsed to 69' upon completion.			
Total Depth @ 78 feet bgs											

								Sample Name: BH01		Date: 1/3/2023	
								Site Name: Rojo 26 Oil Dump Valve Failure			
								Incident Number: nAPP2224256412			
								Job Number: 03C2012006			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: CS / MR		Method: Air Rotary	
Coordinates: 32.107784, -103.562235								Hole Diameter: 6"		Total Depth: 60'	
Comments: Soil boring was advanced to a total depth of 60' bgs. No water was observed within the soil boring after at least 72 hours. On 1/16/2023 the soil boring was plugged and abandoned using hydrated bentonite chips.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	CCHE	(0-30'), CALICHE, coarse grain, well graded, white to tan, dry, no stain or odor.			
Dry	-	-	N	-	-	10					
Dry	-	-	N	-	-	20					
								@20' color change to pink/tan			
Dry	-	-	N	-	-	30	SP-SM	(30-78'), SAND, medium to fine grain, poorly graded with trace caliche nodules, red to orange, dry, no stain, no odor.			
Dry	-	-	N	-	-	40					
Dry	-	-	N	-	-	50					
Dry	-	-	N	-	-	60					
								@50', slightly cohesive with trace clay			
								NOTE: refusal @ 60' using air rotary drill rig due to abundant sand.			
Total Depth @ 60 feet bgs											





## WELL PLUGGING PLAN OF OPERATIONS



**NOTE:** A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology [geoinfo.nmt.edu/resources/water/cgmn/](http://geoinfo.nmt.edu/resources/water/cgmn/) if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email [ambg-waterlevels@nmt.edu](mailto:ambg-waterlevels@nmt.edu), prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

**I. FILING FEE:** There is no filing fee for this form.

**II. GENERAL / WELL OWNERSHIP:** ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: BH01 C-4699-POD1

Name of well owner: BTA Oil Producers, LLC

Mailing address: 104 S. Pecos Street

County: \_\_\_\_\_

City: Midland

State: TX

Zip code: 79701

Phone number: 432-682-3753

E-mail: bhall@btaoil.com

### III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: West Texas Drilling Services

New Mexico Well Driller License No.: WD #1184

Expiration Date: 10/31/2023

**IV. WELL INFORMATION:** ☐ Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 32 deg, 7 min, 22.8972 sec  
Longitude: 103 deg, 33 min, 41.0076 sec, NAD 83

2) Reason(s) for plugging well(s):

Soil boring

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? NA If yes, provide additional detail, including analytical results and/or laboratory report(s): \_\_\_\_\_

5) Static water level: >100 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 110 feet

- 7) Inside diameter of innermost casing: 2 inches.
- 8) Casing material: Temporary PVC SCF 40
- 9) The well was constructed with:  
☐ an open-hole production interval, state the open interval: NA  
☐ a well screen or perforated pipe, state the screened interval(s): NA
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? NA
- 11) Was the well built with surface casing? No If yes, is the annulus surrounding the surface casing grouted or otherwise sealed?                      If yes, please describe:
- 12) Has all pumping equipment and associated piping been removed from the well?                      If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

**V. DESCRIPTION OF PLANNED WELL PLUGGING:** ☐ If plugging method differs between multiple wells on same site, a separate form must be completed for each method.

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:  

The temporary 2" we;; material will be removed. If no water is encountered, drill cuttings will be used to ten feet below ground surface (bgs) and plugged using hydrated bentonite. If groundwater is encountered the boring will be plugged, tremie from bottom to a slurry of Portland Type I/II Neat cement in lifts.
- 2) Will well head be cut-off below land surface after plugging? NA

**VI. PLUGGING AND SEALING MATERIALS:**

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

- 1) For plugging intervals that employ cement grout, complete and attach Table A.
- 2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
- 3) Theoretical volume of grout required to plug the well to land surface: 287
- 4) Type of Cement proposed: Type I/II
- 5) Proposed cement grout mix: <6.0 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be:            batch-mixed and delivered to the site  
X mixed on site

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- 7) Grout additives requested, and percent by dry weight relative to cement:

NA

- 8) Additional notes and calculations:

NA

**VII. ADDITIONAL INFORMATION:** List additional information below, or on separate sheet(s):

NA

**VIII. SIGNATURE:**

I, Bob Hall, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Bob Hall

Signature of Applicant

01/09/2023

Date

**IX. ACTION OF THE STATE ENGINEER:**

This Well Plugging Plan of Operations is:

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☒ Approved subject to the attached conditions.  
☐ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 20<sup>th</sup> day of January, 2023

Mike A. Hammar, P.E., New Mexico State Engineer

By: K. Parekh  
KASHYAP PAREKH  
W.R.M.I



WD-08 Well Plugging Plan  
 Version: July 31, 2019  
 Page 3 of 5

**TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.**

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	NA	NA	0
Bottom of proposed interval of grout placement (ft bgl)	NA	NA	100
Theoretical volume of grout required per interval (gallons)	NA	NA	287
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	NA	NA	<6.0
Mixed on-site or batch-mixed and delivered?	NA	NA	onsite
Grout additive 1 requested	NA	NA	NA
Additive 1 percent by dry weight relative to cement	NA	NA	NA
Grout additive 2 requested	NA	NA	NA
Additive 2 percent by dry weight relative to cement	NA	NA	NA

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**TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.**

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	NA	NA	0
Bottom of proposed sealant of grout placement (ft bgl)	NA	NA	10
Theoretical volume of sealant required per interval (gallons)	NA	NA	26
Proposed abandonment sealant (manufacturer and trade name)	NA	NA	Bariod Hole Plug

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**STATE OF NEW MEXICO**  
**OFFICE OF THE STATE ENGINEER**

**ROSWELL**

1900 West Second St.  
Roswell, New Mexico 88201  
Phone: (575) 622-6521  
Fax: (575) 623- 8559

Applicant has identified wells, listed below, to be plugged. West Texas Drilling Services (WD-1184) will perform the plugging.

Permittee: BTA Oil Producers, LLC  
NMOSE Permit Number: C-4699-POD1

NMOSE File	Casing diameter (inches)	Well depth (feet bgl)	Approximate static water level (feet bgl)	Latitude	Longitude
C-4699-POD1	2.0 (Soil Boring)	110	100	32° 7' 22.8972"	103° 33' 41.0076"

**Specific Plugging Conditions of Approval for Well located in Lea County, New Mexico.**

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

**2. Ground Water encountered:** The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 17.94 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 110 feet.

**3. Dry Hole:** The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 1.63 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 10 feet.

**4. Ground Water encountered:** Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for the plugging the well.

**5. Dry Hole:** (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet – Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

6. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.
7. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. and 4. of these Specific Conditions of Approval.
8. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.
9. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.
10. NMOSE witnessing of the plugging of the soil boring will not be required.
11. Any deviation from this plan must obtain an approved variance from this office prior to implementation.
12. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 20<sup>th</sup> day of January 2023

Mike A. Hamman, P.E. State Engineer



By: \_\_\_\_\_

*K. Parekh*

Kashyap Parekh  
Water Resources Manager I





**STATE OF NEW MEXICO**  
OFFICE OF THE STATE ENGINEER  
ROSWELL

**Mike A. Hamman, P.E.**  
State Engineer

**DISTRICT II**  
1900 West Second St.  
Roswell, New Mexico 88201  
Phone: (575) 622-6521  
Fax: (575) 623-8559

January 20, 2023

BTA Oil Producers, LLC  
104 S. Pecos Street  
Midland, TX 79701

RE: Well Plugging Plan of Operations for well no. C-4699-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer, subject to the attached Conditions of Approval.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link <https://www.ose.state.nm.us/Statewide/wdForms.php>.

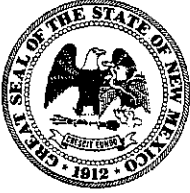
Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Parekh", written over a horizontal line.

Kashyap Parekh  
Water Resources Manager I





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

[www.ose.state.nm.us](http://www.ose.state.nm.us)

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) CP-1718-POD1 MLP West		WELL TAG ID NO.		OSE FILE NO(S).		
	WELL OWNER NAME(S) Merchant Livestock Company/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) 575-398-2424		
	WELL OWNER MAILING ADDRESS PO Box 692				CITY Tatum	STATE NM	
					ZIP 88267		
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 22	SECONDS 21.06	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84	
		LONGITUDE -103	25	48.00	W		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW1/4 NE1/4 SW1/4 Section 24, Township 22 South, Range 34 East on Merchant Livestock Company Land							
2. DRILLING & CASING INFORMATION	LICENSE NO. WD 421		NAME OF LICENSED DRILLER Corky Glenn			NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.	
	DRILLING STARTED 05/09/19	DRILLING ENDED 05/13/19	DEPTH OF COMPLETED WELL (FT) 1,172	BORE HOLE DEPTH (FT) 1,172	DEPTH WATER FIRST ENCOUNTERED (FT) 855'		
	COMPLETED WELL IS: <input checked="" type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 403'		
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD ADDITIVES - SPECIFY:						
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:						
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)
	FROM	TO					
	0	40	20"	ASTM A53 Sch 40 Steel 16" OD	None	15.5	.25
	0	800	14.75"	API Steel Grade J-55/K-55 10.75" OD	Thread & Collar	10.05	.35
	752	1,172	9.875"	Steel Casing 8 5/8" / 8.625" OD	Plain End	8.125	.25
			(420' Total) Bottom 378 Perforated				
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT	
	FROM	TO					
	0	40'	20"	Cemented	2 yards	Top Pour	
	0	800'	14.75"	Float and Shoe Cemented to Surface 28 Barrels	345 Sacks Pumped	Circulated	

FOR OSE INTERNAL USE

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

FILE NO.	CP-1718	POD NO.	1	TRN NO.	628247
LOCATION	22S.34E.24.3.3.2	WELL TAG ID NO.	EXPL	N/A	PAGE 1 OF 2

[illegible]


FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO.	CP-1718	POD NO.	1
LOCATION	225.34E.24.3.3.2	WELL TAG ID NO.	N/A
		PAGE 2 OF 2	




## APPENDIX B


### Lithologic/Soil Sampling Logs


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								Sample Name: SS01		Date: 06/01/23	
								Site Name: Rojo D 7811 JV P Com #003H			
								Incident Number: pOY1814130942			
								Job Number: 03C2012051			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: DN		Method: Hand Auger	
Coordinates: 32.122719, -103.558697								Hole Diameter: 4"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride tests performed with 1:4 dilution factor of soil to distilled water and 40% correction factor.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	CCHE (fill)	0'-0.5' CALICHE, light brown, poorly sorted, sub-rounded grains, no odor, moist, stained, fill.			
M	<168	0.0	Y	SS01	0.5	0.5	SP	0.5'-2' SAND, brown, poorly sorted, fine grains, dry, no odor, not stained.			
D	<173	8.6	N	SS01A		1					
D	<173	8.3	N	SS01B		2	SP	2'-4' SAND, light brown, poorly sorted, fine grains, dry, no odor, not stained.			
D	<173	1.3	N	SS01C		3					
D	<173	0.9	N	SS01D	4	4					
							TD	Total Depth @ 4' bgs			



								Sample Name: SS02		Date: 06/01/23	
								Site Name: Rojo D 7811 JV P Com #003H			
								Incident Number: pOY1814130942			
								Job Number: 03C2012051			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: DN		Method: Hand Auger	
Coordinates: 32.122719, -103.558697								Hole Diameter: 4"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride tests performed with 1:4 dilution factor of soil to distilled water and 40% correction factor.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M  D D D D	<168	0.0	Y	SS02	0.5	0	CCHE (fill)	0'-0.5' CALICHE, light brown, poorly sorted, sub-rounded grains, no odor, moist, stained, fill.			
						0.5	SP	0.5'-1' SAND, brown, poorly sorted, fine grains, dry, no odor, not stained.			
	<173	0.5	N	SS02A		1	SP	1'-4' SAND, light brown, poorly sorted, fine grains, dry, no odor, not stained.			
	<173	0.6	N	SS02B		2					
	<173	0.5	N	SS02C		3					
	<173	0.4	N	SS02D	4	4					
							TD	Total Depth @ 4' bgs			

								Sample Name: SS03		Date: 06/01/23	
								Site Name: Rojo D 7811 JV P Com #003H			
								Incident Number: pOY1814130942			
								Job Number: 03C2012051			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: DN		Method: Hand Auger	
Coordinates: 32.122719, -103.558697								Hole Diameter: 4"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride tests performed with 1:4 dilution factor of soil to distilled water and 40% correction factor.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M  D D D D	<168  <173 <173 <173 <173	0.0  0.5 0.8 0.4 0.3	Y  N N N N	SS03  SS03A SS03B SS03C SS03D	0.5    4	0	CCHE (fill)	0'-0.5' CALICHE, light brown, poorly sorted, sub-rounded grains, no odor, moist, stained, fill.			
						0.5	SP	0.5'-1' SAND, light brown, poorly sorted, fine grains, dry, no odor, not stained.			
						1	SP	1'-2' SAND, brown, poorly sorted, fine grains, dry, no odor, not stained.			
						2	SP	2'-4' SAND, light brown, poorly sorted, fine grains, dry, no odor, not stained.			
						3					
					4	4	TD	Total Depth @ 4' bgs			

								Sample Name: SS04		Date: 06/01/23	
								Site Name: Rojo D 7811 JV P Com #003H			
								Incident Number: pOY1814130942			
								Job Number: 03C2012051			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: DN		Method: Hand Auger	
Coordinates: 32.122719, -103.558697								Hole Diameter: 4"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride tests performed with 1:4 dilution factor of soil to distilled water and 40% correction factor.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
M  D D D D	<168	0.0	Y	SS04	0.5	0	CCHE (fill)	0'-0.5' CALICHE, light brown, poorly sorted, sub-rounded grains, no odor, moist, stained, fill.			
						0.5	SP	0.5'-1' SAND, brown, poorly sorted, fine grains, dry, odor and stained.			
	<173	20.6	Y	SS04A		1	SP	1'-4' SAND, light brown, poorly sorted, fine grains, dry, no odor, not stained.			
	<173	6.9	N	SS04B		2					
	<173	2.3	N	SS04C		3					
	<173	2.1	N	SS04D	4	4					
							TD	Total Depth @ 4' bgs			



## APPENDIX

### Photographic Log

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**Photographic Log**

BTA Oil Producers, LLC

Rojo D 7811 JV P Com #003H

Incident Number nOY1814130699



Photograph: 1 Date: 5/26/2023  
Description: View of inferred release area.



Photograph: 2 Date: 5/26/2023  
Description: View of inferred release area.  
View:



Photograph: 3 Date: 5/26/2023  
Description: View of delineation activities



Photograph: 4 Date: 5/26/2023  
Description: View of delineation activities



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

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

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May 30, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO 7811 JV-P COM

Enclosed are the results of analyses for samples received by the laboratory on 05/26/23 12:20.

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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 01 .5 (H232696-01)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2023	ND	2.00	100	2.00	7.08	
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61	
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01	
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90	
Total BTEX	<0.300	0.300	05/26/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	44.8	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	164	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 02 .5 (H232696-02)**

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2023	ND	2.00	100	2.00	7.08		
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90		
Total BTEx	<0.300	0.300	05/26/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 03 .5 (H232696-03)**

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	05/26/2023	ND	2.00	100	2.00	7.08		
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90		
Total BTEX	<0.300	0.300	05/26/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-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	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 04 .5 (H232696-04)**

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	05/26/2023	ND	2.00	100	2.00	7.08		
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90		
Total BTEx	<0.300	0.300	05/26/2023	ND						

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

Chloride, SM4500CI-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	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	86.7	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	517	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 05 .5 (H232696-05)**

BTEx 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/26/2023	ND	2.00	100	2.00	7.08	
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61	
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01	
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90	
Total BTEx	<0.300	0.300	05/26/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	20.6	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 06 .5 (H232696-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2023	ND	2.00	100	2.00	7.08		
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90		
Total BTEX	<0.300	0.300	05/26/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 07 .5 (H232696-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2023	ND	2.00	100	2.00	7.08		
Toluene*	<0.050	0.050	05/26/2023	ND	1.97	98.3	2.00	7.61		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.90	95.2	2.00	8.01		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	5.83	97.2	6.00	7.90		
Total BTEX	<0.300	0.300	05/26/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 71.5-134

Chloride, SM4500CI-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	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 99.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received: 05/26/2023  
Reported: 05/30/2023  
Project Name: ROJO 7811 JV-P COM  
Project Number: 03C2012051  
Project Location: BTA

Sampling Date: 05/26/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 08 .5 (H232696-08)**

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/26/2023	ND	1.98	98.8	2.00	1.43		
Toluene*	<0.050	0.050	05/26/2023	ND	2.06	103	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/26/2023	ND	1.96	98.0	2.00	2.49		
Total Xylenes*	<0.150	0.150	05/26/2023	ND	6.07	101	6.00	3.43		
Total BTEx	<0.300	0.300	05/26/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-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	05/26/2023	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/26/2023	ND	221	110	200	0.152	
DRO >C10-C28*	<10.0	10.0	05/26/2023	ND	200	99.8	200	1.05	
EXT DRO >C28-C36	<10.0	10.0	05/26/2023	ND					

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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

Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

[illegible]



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

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June 05, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROJO D 7811 JV P COM #003H

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

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received: 06/02/2023  
Reported: 06/05/2023  
Project Name: ROJO D 7811 JV P COM #003H  
Project Number: 03C2012057  
Project Location: 32.122719,-103.558697

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

**Sample ID: SS 01 D 4' (H232789-01)**

BTX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/02/2023	ND	1.97	98.5	2.00	9.75	
Toluene*	<0.050	0.050	06/02/2023	ND	2.02	101	2.00	11.3	
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	1.92	96.1	2.00	9.47	
Total Xylenes*	<0.150	0.150	06/02/2023	ND	5.92	98.7	6.00	10.0	
Total BTX	<0.300	0.300	06/02/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	06/02/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/02/2023	ND	167	83.4	200	3.82	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	173	86.7	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.0 % 49.1-148

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



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**Analytical Results For:**

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

Received: 06/02/2023  
Reported: 06/05/2023  
Project Name: ROJO D 7811 JV P COM #003H  
Project Number: 03C2012057  
Project Location: 32.122719,-103.558697

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

**Sample ID: SS 02 D 4' (H232789-02)**

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	06/02/2023	ND	1.97	98.5	2.00	9.75		
Toluene*	<0.050	0.050	06/02/2023	ND	2.02	101	2.00	11.3		
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	1.92	96.1	2.00	9.47		
Total Xylenes*	<0.150	0.150	06/02/2023	ND	5.92	98.7	6.00	10.0		
Total BTEX	<0.300	0.300	06/02/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	06/02/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/02/2023	ND	167	83.4	200	3.82	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	173	86.7	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.7 % 49.1-148

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





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**Analytical Results For:**

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

Received: 06/02/2023  
Reported: 06/05/2023  
Project Name: ROJO D 7811 JV P COM #003H  
Project Number: 03C2012057  
Project Location: 32.122719,-103.558697

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

**Sample ID: SS 03 D 4' (H232789-03)**

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	06/02/2023	ND	1.97	98.5	2.00	9.75		
Toluene*	<0.050	0.050	06/02/2023	ND	2.02	101	2.00	11.3		
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	1.92	96.1	2.00	9.47		
Total Xylenes*	<0.150	0.150	06/02/2023	ND	5.92	98.7	6.00	10.0		
Total BTEX	<0.300	0.300	06/02/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/02/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/02/2023	ND	167	83.4	200	3.82	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	173	86.7	200	5.72	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 82.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.8 % 49.1-148

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\*=Accredited Analyte

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



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**Analytical Results For:**

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

Received: 06/02/2023  
 Reported: 06/05/2023  
 Project Name: ROJO D 7811 JV P COM #003H  
 Project Number: 03C2012057  
 Project Location: 32.122719,-103.558697

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

**Sample ID: SS 04 D 4' (H232789-04)**

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	06/02/2023	ND	1.97	98.5	2.00	9.75		
Toluene*	<0.050	0.050	06/02/2023	ND	2.02	101	2.00	11.3		
Ethylbenzene*	<0.050	0.050	06/02/2023	ND	1.92	96.1	2.00	9.47		
Total Xylenes*	<0.150	0.150	06/02/2023	ND	5.92	98.7	6.00	10.0		
Total BTEX	<0.300	0.300	06/02/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/02/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/02/2023	ND	167	83.4	200	3.82	
DRO >C10-C28*	10.7	10.0	06/02/2023	ND	173	86.7	200	5.72	
EXT DRO >C28-C36	13.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 79.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

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



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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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

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



**Company Name:** Ensolum, LLC

Lab I.D.		Sample I.D.	Depth (feet)	(G) RAB OR (C) OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING							
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME			
H232789		SSD1D	4	G	1										6/1/23	1140	X	BTEX	
		SSO1D			1											1200	X	TPH	
		SSO3D			1											1220	X		
		SSO4D			1											1240	X	CHLOR	

**PLEASE NOTE:** Liability and Coverage. Customer's liability and claims are limited for any claim arising without regard to contract or third party claims arising from the use of the product. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of time, or loss of profits incurred by third parties. Cardinal assumes no responsibility for any damages, claims, or losses of any kind, including but not limited to, property damage, personal injury, or death, arising from the use of the product. Cardinal assumes no responsibility for any damages, claims, or losses of any kind, including but not limited to, property damage, personal injury, or death, arising from the use of the product. Cardinal assumes no responsibility for any damages, claims, or losses of any kind, including but not limited to, property damage, personal injury, or death, arising from the use of the product.

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)



## APPENDIX E

### NMOCD Notifications

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**From:** [Buchanan, Michael, EMNRD](#)  
**To:** [Enviro, OCD, EMNRD](#); [Hadlie Green](#)  
**Cc:** [Hamlet, Robert, EMNRD](#); [Bratcher, Michael, EMNRD](#)  
**Subject:** RE: [EXTERNAL] BTA - Containment Inspection - Rojo D 8711 JV-P Com (Incident Number nOY1814130699)  
**Date:** Thursday, May 25, 2023 10:06:02 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.

Mike Buchanan

---

**From:** Buchanan, Michael, EMNRD **On Behalf Of** Enviro, OCD, EMNRD  
**Sent:** Thursday, May 25, 2023 9:03 AM  
**To:** 'Hadlie Green' <[hgreen@ensolum.com](mailto:hgreen@ensolum.com)>  
**Cc:** Hamlet, Robert, EMNRD <[Robert.Hamlet@emnrd.nm.gov](mailto:Robert.Hamlet@emnrd.nm.gov)>; Bratcher, Michael, EMNRD <[mike.bratcher@emnrd.nm.gov](mailto:mike.bratcher@emnrd.nm.gov)>  
**Subject:** RE: [EXTERNAL] BTA - Containment Inspection - Rojo D 8711 JV-P Com (Incident Number nOY1814130699)

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.

Mike Buchanan

---

**From:** Hadlie Green <[hgreen@ensolum.com](mailto:hgreen@ensolum.com)>  
**Sent:** Thursday, May 25, 2023 7:49 AM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>  
**Cc:** Tacoma Morrissey <[tmorrissey@ensolum.com](mailto:tmorrissey@ensolum.com)>; Nathan Sirgo <[nsirgo@btaoil.com](mailto:nsirgo@btaoil.com)>; Kevin Jones <[kjones@btaoil.com](mailto:kjones@btaoil.com)> <[kjones@btaoil.com](mailto:kjones@btaoil.com)>; Kelton Beaird <[KBeaird@btaoil.com](mailto:KBeaird@btaoil.com)>  
**Subject:** [EXTERNAL] BTA - Containment Inspection - Rojo D 8711 JV-P Com (Incident Number nOY1814130699)

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



links or opening attachments.

To Whom It May Concern,

Below is an email notification for liner inspection at BTA Oil Producers, LLC (BTA) Rojo D 8711 JV-P Com (Incident Number nOY1814130699) / Spill Date 5-14-2018. This is a notification that Ensolum is scheduled to inspect this lined containment on behalf of BTA on Tuesday, May 30, 2023. Please call with any questions or concerns.

GPS: 32.122719, -103.558697

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

[hgreen@ensolum.com](mailto:hgreen@ensolum.com)

**Ensolum, LLC**



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

---

[ \*\*EXTERNAL EMAIL\*\* ]

Hadlie,

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

JH

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



---

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

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

All,

BTA anticipates collecting confirmation samples at the following locations the week of May 29, 2023.

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

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

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

[hgreen@ensolum.com](mailto:hgreen@ensolum.com)

**Ensolum, LLC**





APPENDIX F

Final

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

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	BTA Oil Producers, LLC	Contact	Kayla McConnell
Address	104 South Pecos, Midland TX, 79707	Telephone No.	432-682-3753
Facility Name	Rojo D 7811 JV-P Com	Facility Type	Central Tank Battery
Surface Owner	Federal	Mineral Owner	Federal
		API No.	30-025-42899

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	22	25S	33E	210	North	2178	East	Lea

Latitude 32.122719 Longitude -103.558697 NAD83

### NATURE OF RELEASE

Type of Release	Water and Oil Release	Volume of Release	18BW/9BO	Volume Recovered	NA
Source of Release	Dump Valve Malfunction	Date and Hour of Occurrence	5/14	Date and Hour of Discovery	5/14/18 ~9 am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu			
By Whom?	Kayla McConnell	Date and Hour 5/14 3:45 pm			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*  
No

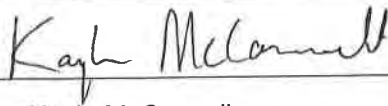

**RECEIVED**

By Olivia Yu at 8:27 am, May 21, 2018

Describe Cause of Problem and Remedial Action Taken.\*  
Dump valve cut a hole in containment,

Describe Area Affected and Cleanup Action Taken.\*  
Dump Valve fixed, in the process of clean up.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kayla McConnell	Approved by Environmental Specialist: 	
Title: Regulatory Analyst	Approval Date: 5/21/2018	Expiration Date:
E-mail Address: kmccconnell@btaoil.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 5/14/2018 Phone: 432-682-3753		

\* Attach Additional Sheets If Necessary

1RP-5058

nOY1814130699

pOY1814130942

Operator/Responsible Party,

The OCD has received the form C-141 you provided on \_5/14/2018\_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \_1RP-5058\_ has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District \_1\_ office in \_\_Hobbs\_\_ on or before \_6/21/2018\_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted



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

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

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

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

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

**Jim Griswold**

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

Incident ID	nOY1814130699
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?	<u>50-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

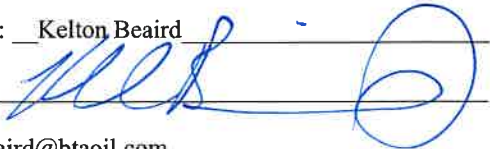
Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nOY1814130699
District RP	
Facility ID	
Application ID	

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

Printed Name: Kelton BeairdTitle: Environmental ManagerSignature: Date: 6/8/2023email: Kbeaird@btaoil.comTelephone: 432-312-2203**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

Form C-141

Page 6

State of New Mexico  
Oil Conservation Division

Incident ID	nOY1814130699
District RP	
Facility ID	
Application ID	

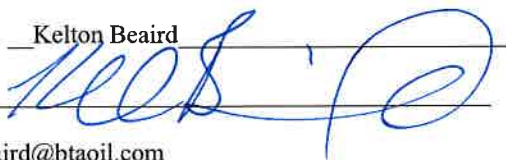
## Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Kelton BeairdTitle: Environmental ManagerSignature: Date: 6/8/2023email: Kbeaird@btaoil.comTelephone: 432-312-2203**OCD Only**

Received by: \_\_\_\_\_

Date: \_\_\_\_\_

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

Closure Approved by: Date: 7/3/2023Printed Name: Brittany HallTitle: Environmental Specialist

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

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

CONDITIONS  
  
Action 225729

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 225729
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved. Site will need to meet the requirements of 19.15.29.13 NMAC at the time of plugging and abandonment or during a major facility reconstruction, whichever comes first.	7/3/2023