



June 6, 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: Remediation Work Plan
Rojo 7811 27 Federal Com 13H
Incident Number nCH1834763224
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared the following *Remediation Work Plan (Work Plan)* to document a release of produced water at the Rojo 7811 27 Federal Com 13H (Site), present the Site Characterization identifying any potential sensitive receptors, and propose to complete Site assessment activities to assess for the presence or absence of impacts related to assigned Incident Number nCH1834763224.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 27, Township 25 South, Range 33 East, in Lea County, New Mexico (32.108100°, -103.552960°) and is associated with oil and gas exploration and production operations on private land owned by KAML Limited.

On November 13, 2018, a seal on the diesel transfer pump blew out, resulting in the release of 30 barrels (bbls) of produced water, of which no fluids were recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) via a Release Notification Form C-141 (Form C-141) on November 15, 2018. The release was assigned Incident Number nCH1834763224.

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 a 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 to 100 feet below ground surface (bgs) based on the closest groundwater well data. The closest groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NM OSE) well number C-4698-POD 1, located approximately ½-mile west of the Site. On January 3, 2023, a field geologist logged and described soils continuously to a total depth of 60 feet bgs due to drilling refusal. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 60

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feet bgs. The borehole was properly abandoned using drill cuttings and hydrated bentonite chips. Based on the soil boring, depth to groundwater at the Site is confirmed to be between 50 feet and 100 feet bgs. All wells used for depth to water determination are depicted on Figure 1 and the referenced well record is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an irrigation canal, located approximately 4,246 feet southeast 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 for the following chemicals of concern (COCs):

- 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
- Total TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

PROPOSED DELINEATION ACTIONS

Based on the unrecovered volume of produced water from the release, Ensolum proposes to evaluate the release extent based on information provided on the Form C-141 and visual observations. Ensolum will advance representative hand auger borings within the release extent and advance them until 1-foot bgs or until field screening results indicate concentrations of COCs in soil are in compliance with the Closure Criteria. Two soil samples will be collected from each of the soil borings within the release extent; the soil sample exhibiting the highest field screening results and the terminus of the soil boring. Additional soil samples will be collected at 0.5 feet bgs outside of the release extent to confirm the lateral definition of the release. Tentative soil sample locations are depicted on Figure 2. It should be noted that the locations could change based on Site conditions at the time of the assessment activities.

All soil samples will be 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 were logged on lithologic/soil sampling logs. The soil sample locations will be mapped utilizing a handheld Global Positioning System (GPS) unit. Photographic documentation will be completed during the Site visit.

Soil samples will be 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 will be transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following 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.

BTA will complete the remedial activities described above within 90 days of the date of approval of this *Work Plan* by the NMOCD. If laboratory analytical results indicate concentrations of all COCs are in compliance with the Closure Criteria and/or the reclamation requirement and it is determined that impacted soil is not present, a Closure Request will be prepared and submitted to the NMOCD for

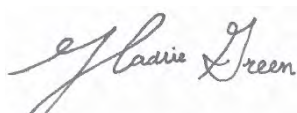
BTA Oil Producers, LLC
Remediation Work Plan
Rojo 7811 27 Federal Com 13H

concurrence. If laboratory analytical results do indicate the presence of impacted soil, BTA will submit a *Revised Remediation Work Plan (RRWP)* to outline additional remedial actions to addressed impacts.

BTA believes the scope of work described above will meet requirements set forth in 19.15.29.12 NMAC and are protective of human health, the environment, and groundwater. As such, BTA respectfully requests approval of this *Work Plan* from NMOCD.

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



Daniel R. Moir, PG
Senior Managing Geologist

cc: Kelton Beaird, BTA
Nathan Sirgo, BTA
KAML Limited

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Appendix A	Water Well Log
Appendix B	Form C-141



FIGURES

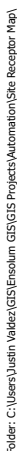


FIGURE 1

Legend

- Delineation Soil Sample Location
- Lateral Delineation Extent Soil Sample Location
- ▲ Point of Release (POR)
- Release Extent




Delineation Soil Sample Locations

BTA Oil Producers, LLC
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 Unit A, Sec 27, T25S, R33E
 NA, Lea County, New Mexico

FIGURE
2



APPENDIX A
Water Well Log

								Sample Name: BH01		Date: 1/3/2023	
								Site Name: Rojo 26 Oil Dump Valve Failure			
								Incident Number: nAPP2224256412			
								Job Number: 03C2012006			
LITHOLOGIC / SOIL SAMPLING LOG								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		@50', slightly cohesive with trace clay			
Dry	-	-	N	-	-	60		NOTE: refusal @ 60' using air rotary drill rig due to abundant sand.			
Total Depth @ 60 feet bgs											



APPENDIX B

Form 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	NCH1834763224
District RP	1RP-5274
Facility ID	
Application ID	pCH1834763495

Release Notification

Responsible Party

Responsible Party	BTA Oil Producers	OGRID	260297
Contact Name	Ben Grimes	Contact Telephone	432-682-3753
Contact email	bgrimes@btaoil.com	Incident #	NCH1834763224 ROJO 7811 27
Contact mailing address	104 S. Pecos St. Midland, TX 7970		FEDERAL COM 13H @ 30-025-44296

Location of Release Source

Latitude 32.108100 Longitude 103.552960
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Rojo 7811 27 Federal Com 13H (Closest Well)	Site Type	Tank Battery
Date Release Discovered	11/13/2018	API# (if applicable)	30-025-44296

Unit Letter	Section	Township	Range	County
A NENE	27	25S	33E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 30 bbl	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No not known at this time
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

This morning around 5am NM time, the seal on the diesel transfer pump blew out. spilled approximately 30 bbl. of produced water behind the battery. None was contained. Called Vac truck to pick up what could but most had soaked into soil.

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? NMOCD rules states 25 or more BBLs constitutes a major release and this was approx. 30 BBL
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc.)?	


Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: The area that the spill occurred is only accessible to a certain point before the flowlines and equipment is in the way. All liquid has absorbed into ground.	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Ben Grimes</u> Signature: <u>Ben Grimes</u> email: <u>BGrimes@PTAOL.com</u>	Title: <u>Production Manager</u> Date: <u>11/15/2018</u> Telephone: <u>432-682-3753</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Rojo 10-13 Battery (BTA Oil Producers)

Legend

 Rojo 10-13 Battery

Map Legend
Sp1 - Source
Blueout Line-Spill Area
Sq Ft. - 6, 145.75

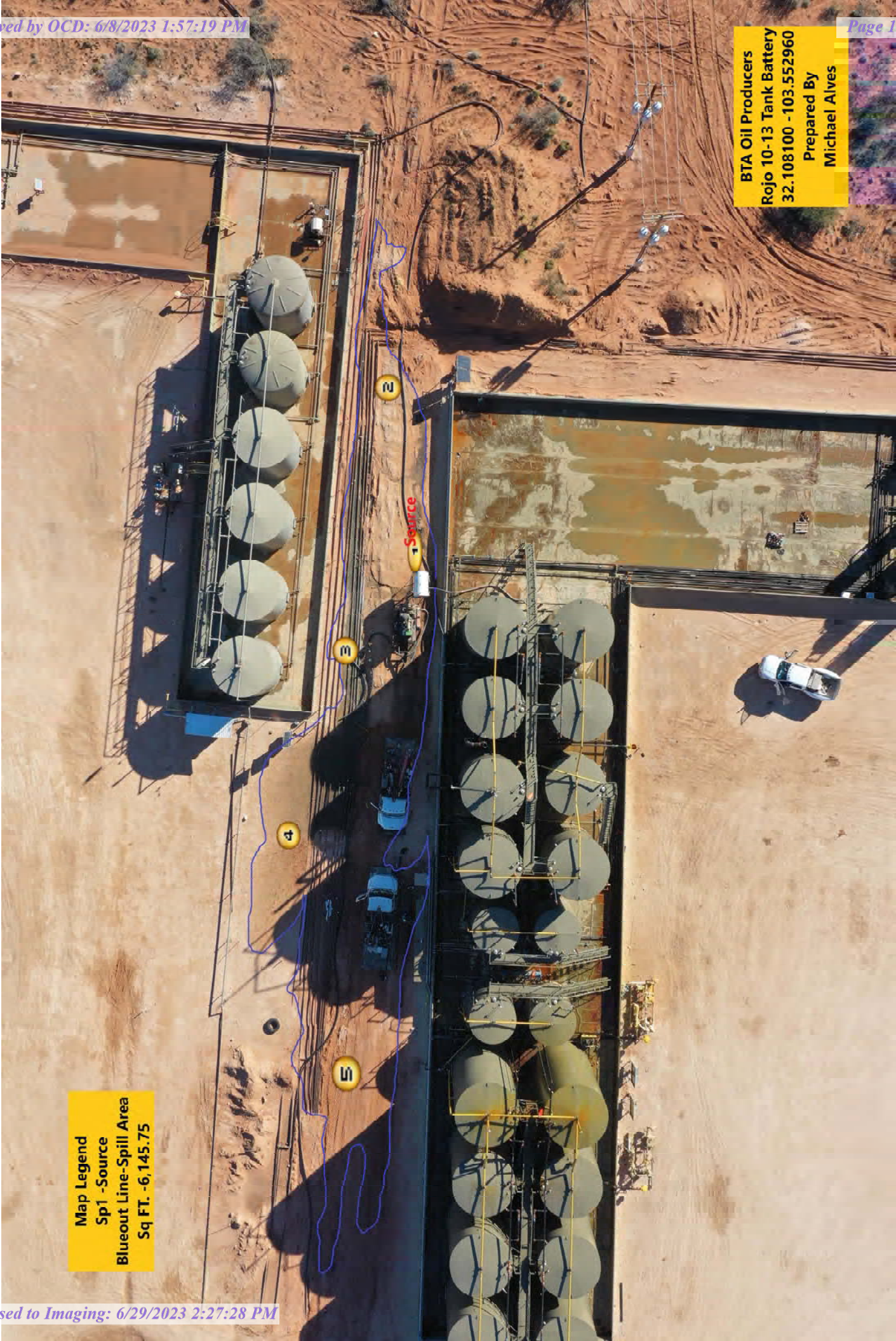
BTA Oil Producers
Rojo 10-13 Tank Battery
32.108100 - 103.552960
Prepared By
Michael Alves

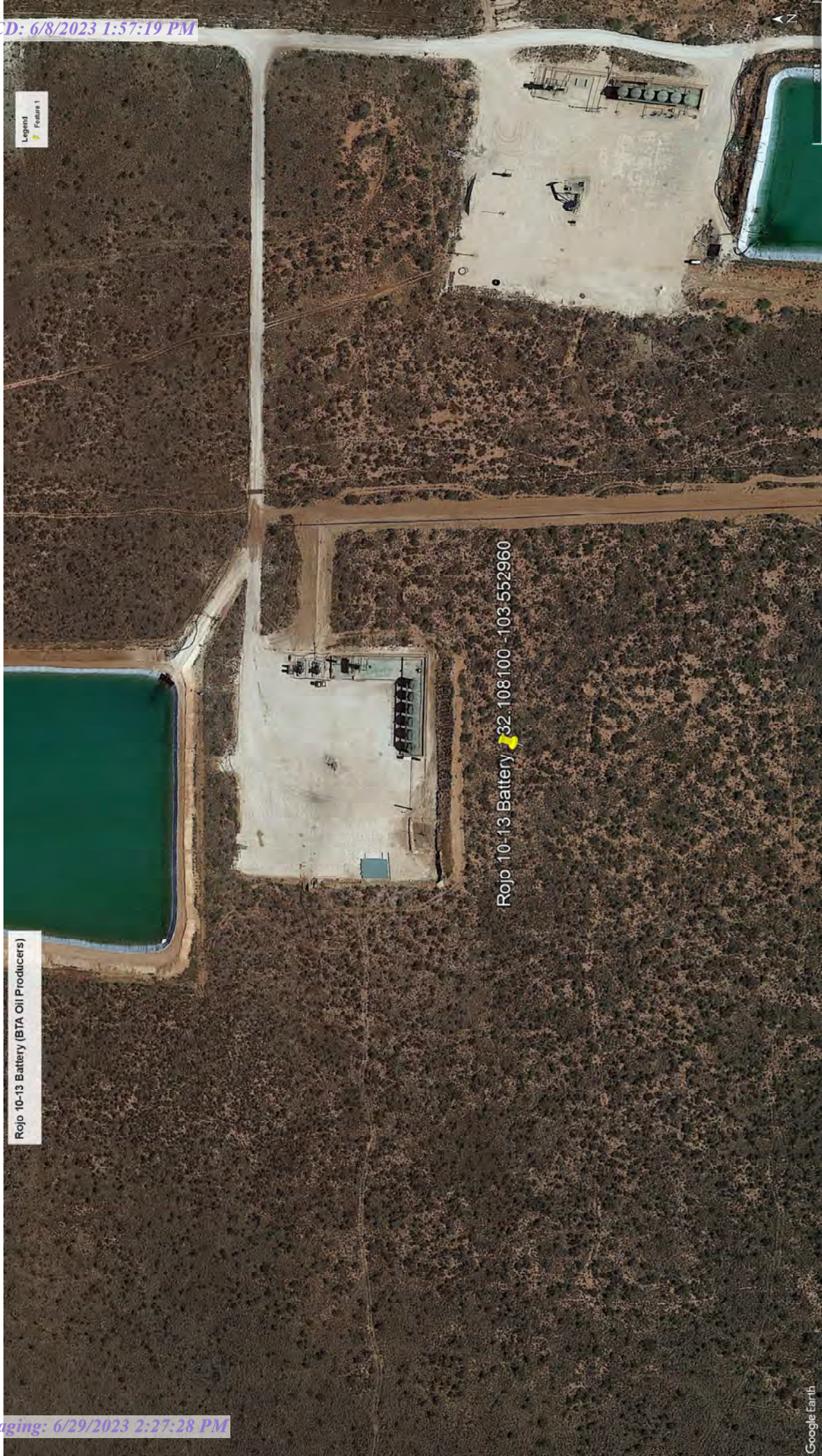
Rojo 10-13 Battery 32.108100 - 103.552960



BTA Oil Producers
Rojo 10-13 Tank Battery
32.108100 - 103.552960
Prepared By
Michael Alves

Map Legend
Sp1 -Source
Blueout Line-Spill Area
Sq FT. -6,145.75





Rojo 10-13 Battery (BTA Oil Producers)

Rojo 10-13 Battery 32.108100 -103.552960

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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?	>60 _____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

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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: Kelton Beaird

Title: Environmental Manager

Signature: 

Date: 6-7-23

email: kbeaird@btaoil.com

Telephone: 432-312-2203

OCD Only

Received by: Jocelyn Harimon

Date: 06/08/2023

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Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan.

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kelton Beaird

Title: Environmental Manager

Signature: 

Date: 6-7-23


email: kbeaird@btaoil.com

Telephone: 432-312-2203

OCD Only

Received by: Jocelyn Harimon

Date: 06/08/2023

☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral ApprovedSignature: 

Date: 06/29/2023

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 225598

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 225598
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Delineation plan approved. Submit a report via the OCD permitting portal by September 29, 2023.	6/29/2023