



October 7, 2024

**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  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number nCH1903263128  
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 excavation and soil sampling activities performed at the Gem 4, 5, 7, 10 Battery, 8705 JV-P (Site). The purpose of excavation and soil sampling activities, conducted in accordance with an approved *Remediation Work Plan (Work Plan)*, was to address impacts to soil resulting from a release of produced water at the Site. BTA is submitting this *Closure Request*, describing excavation activities that have occurred and requesting no further remediation for Incident Number nCH1903263128.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit N, Section 2, Township 20 South, Range 33 East, in Lea County, New Mexico and is associated with oil and gas exploration and production operations on New Mexico State Trust Land managed by the New Mexico State Land Office (NMSLO).

On December 7, 2018, a failure of a 45-degree connection on a 2.875-inch flowline that transports fluid to a saltwater disposal (SWD) well resulted in the release of 6 barrels (bbls) of produced water. Following the release, 1 bbl of free-standing produced water was recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) via a Release Notification Form C-141 (Form C-141) on December 18, 2018. The release was assigned Incident Number nCH1903263128.

Following the release, BTA retained Trinity Oilfield Services and Rentals, LLC (Trinity) to assess the release extent. According to Trinity's Site Summary and Spill Remediation Proposal, dated August 21, 2019, Trinity was onsite between February 15, 2019, and April 2, 2019 to assess the release and to define the magnitude and extent of impacts. Trinity advanced 14 soil boreholes (SP-1 through SP-14) via hand auger and backhoe, to depths ranging from 0.5 feet to 16 feet bgs to assess impacts to soil. Based on soil borehole locations, the point of release was on the west side of the well pad and the extent included an area inside the earthen berm secondary containment and onto the south adjacent pasture (Figure 2). Laboratory analytical results indicated concentrations of BTEX in all submitted soil samples were compliant with the Closure Criteria. Concentrations of TPH in soil from all soil samples were in compliance with the Closure Criteria; however, the TPH concentration in borehole SP-2, at approximately 0.5 feet bgs, did exceed the reclamation requirement, indicating waste-containing soil is

BTA Oil Producers, LLC  
Closure Request  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

present in the adjacent pasture. Laboratory analytical results indicated chloride concentrations in soil from boreholes SP-4, SP-5, SP-8, SP-9, and SP-10 exceeded the Closure Criteria and/or reclamation requirement. While Trinity did propose excavation activities to address impacted soil documented at the Site, the proposal was not submitted to the NMOCD for approval. Based on the findings presented in Trinity's report, it appears additional delineation and remediation activities were warranted to address the December 2018 release.

BTA retained Ensolum to review the work completed in order to confirm or adjust Trinity's findings and address any remaining impacted soil or waste-containing soil in the pasture area. As such, a *Work Plan* was submitted on June 9, 2023, proposing additional delineation to confirm the presence or absence of impacts to soil and complete remediation activities. The *Work Plan* was approved by the NMOCD on July 7, 2023. A copy of the approved Work Plan, which includes the Trinity Site Summary and Spill Remediation Proposal, is included in Appendix A.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

As documented in the approved *Work Plan*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum Hydrocarbons (TPH)- gasoline range organics (GRO) and TPH – diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

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

## CULTURAL RESOURCE SURVEY

Since a portion of the historical release was identified in the pasture, the release location was assessed for determination of whether the release encroached into undisturbed areas to comply with the Cultural Properties Protection Rule (CPP) prior to disturbing the surface with mechanical equipment. An Archaeological Records Management System (ARMS) review was performed for the area of potential effect (APE) by Beaver Creek Archeology (BCA). Following a desktop review of the APE, BCA submitted a NMSLO Cultural Resources Cover Sheet (Cover Sheet) to the NMSLO Cultural Resource Office (CRO) stating the APE had not been previously surveyed. BCA did not recommend additional surveys for the following reason:

*"Due to the location of the majority of the remediation area, on and immediately adjoined to an existing pad, and the amount of previous disturbance, BCA does not recommend any additional archaeological work for this project as it is proposed."*

The redacted Cover Sheet is included in Appendix B.

BTA Oil Producers, LLC  
Closure Request  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

## ADDITIONAL DELINEATION SOIL SAMPLING ACTIVITIES

As documented in the approved *Work Plan*, Trinity had identified impacted and waste-containing soil at the Site following the December 7, 2018, produced water release. Between August 10, and August 11, 2023, Ensolum personnel completed additional assessment and delineation activities to confirm the presence or absence of impacted and/or waste-containing soil at the Site. Seven delineation soil samples were collected within and around Trinity soil sample locations at 0.5 feet bgs to assess the lateral extent of potential impacts or waste-containing soil. Delineation soil samples SS01, SS02, SS03C, SS04C, and SS07 were collected laterally to the north, south, east and west of potentially impacted soil identified by Trinity in 2019. Delineation soil sample SS05 was collected in the vicinity of Trinity soil sample SP-2 which identified waste containing soil in the pasture. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Photographic documentation of the delineation activities was completed, and a photographic log is included in Appendix C. The delineation soil samples were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

In addition, Ensolum personnel advanced delineation boreholes BH01 and BH04 via backhoe to a maximum depth of 16 feet bgs and BH02 via hand auger to a maximum depth of 5.5 feet bgs. No mechanical equipment could be utilized in the location of BH02, collected in the vicinity of Trinity soil sample SP-5, due to the presence of active production equipment, surface and subsurface production and electrical lines. Delineation borehole BH01 was collected in the pasture and delineation borehole BH04 was collected in the vicinity of Trinity soil samples SP-12 and SP-13. Discrete soil samples (BH01K/BH01P, BH02E, BH04/BH04F/BH04L) were collected from each pothole at depths ranging from 4 feet bgs to 16 feet bgs. Soil from the delineation soil samples was field screened for VOCs and chloride. Field screening results and observations for each pothole were documented on a lithologic/soil sampling log and are included as Appendix D. The soil sample locations are depicted on Figure 2.

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 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 Standards Method SM4500.

Laboratory analytical results for delineation soil samples SS01, SS02, SS03C, SS04C, SS06 and SS07 indicate all COCs are compliant with the Closure Criteria and confirm the absence of impacted soil at the Site. In addition, the results for delineation soil samples SS01, SS02, SS03C and SS07 are compliant with the reclamation requirement and define the lateral extent of waste-containing soil on pad. Laboratory analytical results for all delineation borehole soil samples indicate all COCs are compliant with the Closure Criteria and confirm the absence of impacted soil in the subsurface to a maximum depth of 16 feet bgs. Laboratory analytical results for delineation soil sample SS05, collected in the pasture near Trinity soil sample SP-2 indicated that TPH concentrations exceeded the Closure Criteria and reclamation requirement in the pasture, confirming the presence of impacted and waste-containing soil in the pasture area. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix E.

Based on a review of field screenings and laboratory analytical results, excavation of impacted and waste-containing soil in the pasture was warranted.

BTA Oil Producers, LLC  
 Closure Request  
 Gem 4, 5, 7, 10 Battery, 8705 JV-P

## EXCAVATION AND SOIL SAMPLING ACTIVITIES

Ensolum completed excavation of TPH-impacted soil located in the vicinity of Trinity soil sample SP-2 and delineation soil sample SS05 on August 11, 2023. A backhoe and transport vehicles were utilized to complete the excavation to a total depth of 4 feet bgs. Following the removal of the impacted and waste-containing soil, confirmation soil samples were collected from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation floor soil sample FS01 was collected at 4 feet bgs and sidewall soil sample SW01 was collected at depths ranging from ground surface to 4 feet bgs. The confirmation soil samples were collected, handled, and submitted for analysis of all COCs as described above at Cardinal in Hobbs, New Mexico. The confirmation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 3. Photographic documentation of the final excavation extent is provided in Appendix C.

The final excavation extent measured approximately 200 square feet. A total of approximately 30 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all excavation floor and sidewall samples indicated COC concentrations were compliant with the Closure Criteria. In addition, sidewall soil sample SW01, collected from ground surface to 4 feet bgs indicated all COC concentrations were compliant with the reclamation requirement, successfully defining the lateral extent of the waste-containing soil. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix E.

## CLOSURE REQUEST

Excavation activities were conducted at the Site following delineation activities confirmed the presence of impacted soil in the pasture. Laboratory analytical results for all excavation soil samples collected indicate COC concentrations were compliant with the Closure Criteria and reclamation requirement applied in the top 4 feet. Based on the soil sample laboratory analytical results, no further remediation is required until major facility reconstruction or pad abandonment. The excavation was backfilled with material purchased locally and the area was recontoured to match pre-existing site conditions. The pasture area will be reseeded with the following NMSLO seed mix, as proposed in the approved in the *Work Plan* during the next NMSLO recommended planting season.

Common Name and Preferred Variety	Scientific Name	PLS Per Acre
<b>Annual Quick-cover Grass</b>		
Oats	<i>Avena sativa</i>	1.00
<b>Cool Season Grass</b>		
Western Wheatgrass	<i>Agropyron smithii</i>	2.50
<b>Warm-Season Grass</b>		
Black or Blue Grama	<i>Boutela gracilis</i> var. <i>Alma</i>	1.50
Little Bluestem	<i>Schizachyrium scoparium</i>	0.50
Sand Dropseed	<i>Sporobolus cryptandrus</i>	0.50
Sand Bluestem	<i>Andropogon hallii</i>	1.00
Indiangrass	<i>Sorghastrum nutans</i>	0.50



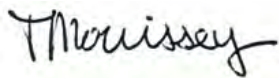
BTA Oil Producers, LLC  
 Closure Request  
 Gem 4, 5, 7, 10 Battery, 8705 JV-P

Sideoats Grama	<i>Bouteloua curtipendula</i> var. <i>Vaughn</i>	2.00
<b>Wildflowers/ Forbs</b>		
White prairie clover	<i>Dalea candida</i>	0.10
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	0.10
Chia Sage	<i>Salvia columbariae</i>	0.10
Annual sunflower	<i>Helianthus annuus</i>	0.10
Annual buckwheat	<i>Eriogonum annuum</i>	0.10

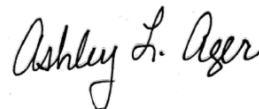
Excavation of soil has mitigated impacts exceeding the Closure Criteria at the Site. Waste containing soil does exist at the Site on pad and will be removed during final abandonment or major reconstruction of the pad, whichever occurs first. Based on the delineation soil sample analytical results, approximately 300 cubic yards of soil exceeding the reclamation requirement in the top 4 feet on pad will be left in place. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nCH1903263128.

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**



Tacoma Morrissey, M.S.  
 Associate Principal



Ashley L. Ager, M.S., P.G.  
 Principal

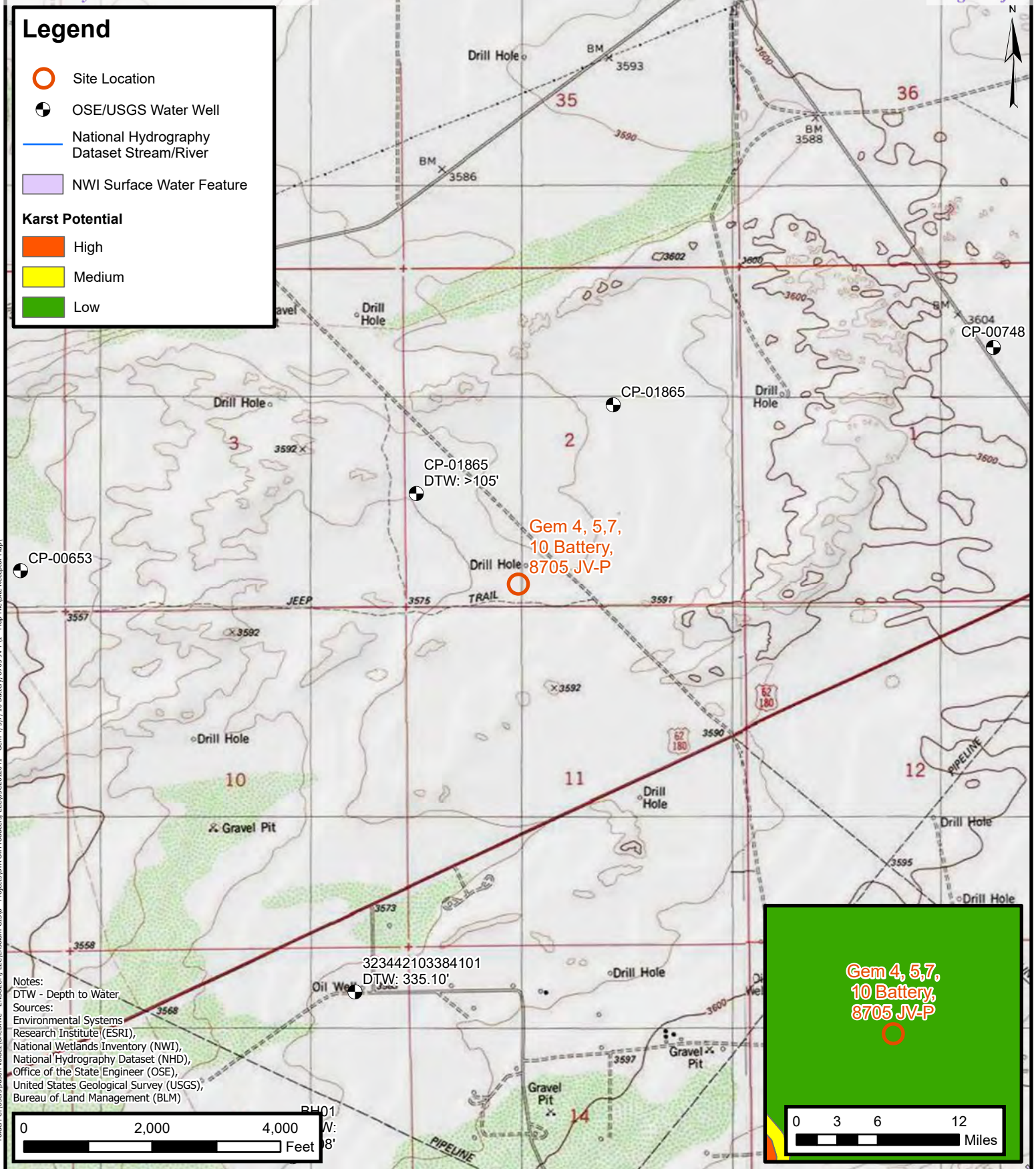
cc: Ray Ramos, BTA  
 Nathan Sirgo, BTA  
 NMSLO

Appendices:

Figure 1 Site Receptor Map  
 Figure 2 Delineation Soil Sample Locations  
 Figure 3 Excavation Soil Sample Locations  
 Table 1 Soil Sample Analytical Results  
 Appendix A June 9, 2023 *Remediation Work Plan*  
 Appendix B NMSLO Cultural Resources Cover Sheet  
 Appendix C Photographic Log  
 Appendix D Lithologic Soil Sampling Logs  
 Appendix E Laboratory Analytical Reports & Chain-of-Custody Documentation  
 Appendix F NMOCD Correspondence



FIGURES



**ENSOLUM**  
Environmental, Engineering and  
Hydrogeologic Consultants

**Sensitive Receptor Map**  
BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number: nCH1903263128  
Unit N, Sec 2, 20S, 33E  
Lea County, New Mexico

**FIGURE**  
**1**





## Delineation Soil Sample Locations

BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number: nCH1903263128  
Unit N, Sec 2, T20S, R33E  
Lea County, New Mexico

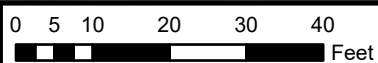
**FIGURE**  
**2**

## Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Electric Utility Line
- Oil and Gas Utility Line
- Production Equipment
- ▨ Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)

## Confirmation Soil Sample Locations

BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number: nCH1903263128  
Unit N, Sec 2, T20S, R33E  
Lea County, New Mexico

FIGURE

3







TABLES

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Gem 4,5,7,10 Battery, 8705 JV-P  
 BTA Oil Producers, LLC  
 Eddy 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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>Delineation Soil Samples</b>										
SS01	08/10/2023	0.5	<0.050	<0.300	<10.0	<10.0	10.4	<10.0	10.4	208
SS02	08/10/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SS03C	08/11/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SS04C	08/11/2023	0.5	<0.050	<0.300	<10.0	267	257	267	524	336
SS05	08/11/2023	0.5	<0.050	<0.300	<10.0	3,820	1,260	3,820	5,080	288
BH01K	08/10/2023	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
BH01P	08/10/2023	16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,800
SS06	08/11/2023	0.5	<0.050	<0.300	<10.0	235	239	235	474	496
SS07	08/11/2023	0.5	<0.050	<0.300	<10.0	19.1	18.0	19.1	37.1	304
BH02E	08/11/2023	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,480
BH04	08/10/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	960
BH04F	08/11/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,040
BH04L	08/11/2023	12	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,080
<b>Confirmation Soil Samples</b>										
SW01	08/11/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS01	08/10/2023	4	<0.050	<0.300	<10.0	19.7	12.5	19.7	32.2	1,300

**Notes:**

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in bold exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon



## APPENDIX A

### June 9, 2023 *Remediation Work Plan*

---



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: Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number nCH1903263128  
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 the release of produced water at the Gem 4, 5, 7, 10 Battery, 8705 JV-P (Site), present the Site Characterization identifying any potential sensitive receptors, and propose additional delineation and subsequent excavation activities related to documented impacted and waste-containing soil associated with Incident Number nCH1903263128.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit N, Section 2, Township 20 South, Range 33 East, in Lea County, New Mexico (32.59584°, -103.63667°) and is associated with oil and gas exploration and production operations on New Mexico State Trust Land managed by the New Mexico State Land Office (NMSLO).

On December 7, 2018, a failure of a 45-degree connection on a 2.875-inch flowline that transports fluid to a saltwater disposal (SWD) well resulted in the release of 6 barrels (bbls) of produced water. Following the release, 1 bbl of free-standing produced water was recovered. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) via a Release Notification Form C-141 (Form C-141) on December 18, 2018. The release was assigned Incident Number nCH1903263128.

**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 Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the closest groundwater well data. The closest groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (OSE) well number CP-01865, located approximately 0.4 miles northwest of the Site. On February 8, 2021, a borehole was advanced to 105 feet bgs and no water was encountered, confirming that groundwater beneath the Site is greater than 100 feet bgs. All

BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

wells used for depth to water determination are depicted on Figure 1 and the referenced well record for CP-01865 is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an irrigation canal, located approximately 11,948 feet northwest 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: 20,00 mg/kg

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

## DELINEATIONS ACTIVITIES

Following the release, BTA retained Trinity Oilfield Services and Rentals, LLC (Trinity) to assess the release extent. According to Trinity's *Site Summary and Spill Remediation Proposal*, dated August 21, 2019 (Appendix B), Trinity was onsite between February 15, 2019 and April 2, 2019 to assess the release and to define the magnitude and extent of impacts. Trinity advanced 14 soil boreholes (SP-1 through SP-14) via hand auger and backhoe, to depths ranging from 0.5 feet to 16 feet bgs to assess impacts to soil. Based on soil borehole locations, the point of release was on the west side of the well pad and the extent included an area inside the earthen berm secondary containment and onto the south adjacent pasture (Figure 2). Laboratory analytical results indicated concentrations of BTEX in all submitted soil samples were compliant with the Closure Criteria. Concentrations of TPH in soil from all soil samples were in compliance with the Closure Criteria; however, the TPH concentration in borehole SP-2, at approximately 0.5 feet bgs, did exceed the reclamation requirement, indicating waste-containing soil is present in the adjacent pasture. Laboratory analytical results indicated chloride concentrations in soil from boreholes SP-4, SP-5, SP-8, SP-9, and SP-10 exceeded the Closure Criteria and/or reclamation requirement. While Trinity did propose excavation activities to address impacted soil documented at the Site, the proposal was not submitted to the NMOCD for approval. Based on the findings presented in Trinity's report, it appears additional delineation and remediation activities are warranted to address the December 2018 release.

## PROPOSED REMEDIAL ACTIONS

Based delineation activities completed by Trinity in 2019, Ensolum proposes to complete delineation of the release laterally and vertically and then remediate impacted and waste-containing soil to meet requirements set forth in 19.15.29 NMAC.



BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

### Cultural Resources Survey

Since the release entered the pasture, the release location will be assessed for determination of whether the release encroached into undisturbed areas to comply with the Cultural Properties Protection Rule (CPP) prior to disturbing the surface with mechanical equipment. The NMSLO will be notified of potential disturbance of the pasture on a Right of Entry Request for Remediation form. The request will include a copy of the Form C-141, a topographic location map, and a satellite image of the location. Ensolum will request an Archaeological Records Management System (ARMS) review be completed by the NMSLO to determine if prior cultural resources survey(s) overlap with the project area and if so, whether oversight by an approved archeologist would be required during disturbance activities. Fieldwork will be modified if cultural resources are present at a distance that could compromise those resources and any modifications of the following activities will be documented and relayed to the NMOCD and NMSLO prior to entering the pasture.

### Proposed Additional Delineation Activities

Ensolum will complete additional delineation activities prior to any excavation in order to fully define the release extent. Below is a summary table of delineation sample locations that will be advanced via hand auger and/or backhoe, as applicable.

**TABLE 1 – PROPOSED DELINEATION PLAN**

Proposed Lateral Delineation Locations	
North	North of borehole SP-14
East	East of boreholes SP-9 and SP-10
South	South of borehole SP-2
West	West of borehole SP-10
Proposed Vertical Delineation Locations	
Vertical depth greater than 6 feet bgs in the vicinity of borehole SP-5	
Second depth in the vicinity of borehole SP-12 (first depth at 0.5 feet bgs)	
Second depth in the vicinity of borehole SP-13 (first depth at 0.5 feet bgs)	
Second depth in the vicinity of borehole SP-14 (first depth at 0.5 feet bgs)	

To adequately define the lateral extent of the release, soil samples from the locations described above and depicted on Figure 2 will be collected at 0.5 feet bgs confirm the release did not extend past the footprint previously identified. It should be noted that the lateral delineation soil samples south of borehole SP-2 will be completed with a hand auger until an ARMS review determined the remediation area has been properly assessed for potential presence of culture resources.

Ensolum will advance hand auger/backhoe borings in vertical delineation locations described above and depicted on Figure 2 until field screening results indicate concentrations of COCs in soil are in compliance with the Closure Criteria and/or reclamation requirement. A soil sample will be collected from each of the vertical delineation soil borings at the terminus of the soil boring, which will define the vertical extents of impacts.

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.

BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

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 delineation activities described above within 90 days of the date of approval of this *Work Plan* by the NMOCD.

### Proposed Excavation Activities

Laboratory analytical results from Trinity's assessment activities in 2019 indicated concentrations of COCs exceeded the Closure Criteria and/or the reclamation requirement and it is determined that impacted and waste-containing soil is present. As such, Ensolum proposes to complete the following excavation activities:

- Excavation of waste-containing soil in the vicinity of borehole SP-2 to a depth of approximately 1-foot bgs;
- Excavation of waste-containing soil in the vicinity of boreholes SP-4 and SP-8 to a total depth of 4 feet bgs;
- Excavation of impacted soil in the vicinity of boreholes SP-9 and SP-10 to an approximate depth of 4 feet bgs;
- Excavation of impacted soil in the vicinity of borehole SP-5 to a depth to be determined by vertical delineation efforts described above. If impacts are documented to be greater than 8 feet bgs, BTA requests to excavate in this area to a depth of 4 feet bgs and install a 20-mil poly liner to prevent vertical migration of chloride impacts in the future instead of excavating all impacts to below the Closure Criteria;
- Following removal of impacted soil listed above, 5-point composite soil samples will be collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. The composite soil samples will be handled and analyzed as described above; and
- In those areas where waste-containing soil is removed, representative sidewall samples will be collected and analyzed to verify all waste-containing soil has been removed per 19.15.29.13 NMAC.

### Reclamation Plan

The southern portion of release went into the pasture and as such, reclamation requirements set forth in 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation will be applied. The following Reclamation Plan addresses reclamation of the off-pad excavation area and has been developed through review and application of the *Revegetation Guidelines Handbook for Southeastern New Mexico* – Version 1-1, authored by NMSLO and dated 2018, and 19.2.100.67 NMAC – *Surface Reclamation on State Oil and Gas Leases*:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. A minimum of 1-foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;

BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

- Soil in the vicinity of the release in the pasture will be assessed for the proper application of *Table 3 - Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico*;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed listed in the table below;

Common Name and Preferred Variety	Scientific Name	PLS Per Acre
<b>Annual Quick-cover Grass</b>		
Oats	<i>Avena sativa</i>	1.00
<b>Cool Season Grass</b>		
Western Wheatgrass	<i>Agropyron smithii</i>	2.50
<b>Warm-Season Grass</b>		
Black or Blue Grama	<i>Boutela gracilis</i> var. <i>Alma</i>	1.50
Little Bluestem	<i>Schizachyrium scoparium</i>	0.50
Sand Dropseed	<i>Sporobolus cryptandrus</i>	0.50
Sand Bluestem	<i>Andropogon hallii</i>	1.00
Indiangrass	<i>Sorghastrum nutans</i>	0.50
Sideoats Grama	<i>Bouteloua curtipendula</i> var. <i>Vaughn</i>	2.00
<b>Wildflowers/ Forbs</b>		
White prairie clover	<i>Dalea candida</i>	0.10
Scarlet globemallow	<i>Sphaeralcea coccinea</i>	0.10
Chia Sage	<i>Salvia columbariae</i>	0.10
Annual sunflower	<i>Helianthus annuus</i>	0.10
Annual buckwheat	<i>Eriogonum annuum</i>	0.10

- The seed mixture will be distributed with one or more of the following methods: push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding based on Site conditions and contractor availability;
- Application of the seed mixture will be at a coverage of 10 pounds of seeds per acre of reclaimed pasture with distribution by a drilling method or 20 pounds of seeds per acre of reclaimed pasture with distribution by a broadcast method;
- Erosion control management is not anticipated since the proposed excavation area is relatively flat; however, in the event erosion control management is necessary to support vegetation growth and minimize erosion until the root structures take hold, the application of the following best management practices (BMPs) could potentially include:
  - Prompt revegetation with mulching and contouring the ground surface to limit surface water flow;
  - The placement of wattles in areas with a propensity for high run off rates;
  - Straw cover if high winds are anticipated to support moisture retention and limit wind from blowing seeds away before they have had time to germinate; and/or
  - Other erosional control best management practices (BMP) as necessary to support timely and healthy regrowth of vegetation in disturbed areas;
- Backfilling of the excavation will be scheduled and communicated with NMSLO prior to initiation;

BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

- Seeding is anticipated to be completed in the Fall when temperatures and precipitation are most conducive for vegetation growth. In general, seeding should occur approximately one month after the last frost in the Spring up until approximately one month prior to the first fall frost. NMSLO has recognized the optimal time to seed is between July and early September, which will be the preferred timeframe for this Site;
- If seeding occurs outside of the 180 days approved in the current fully executed ROE Permit, a new ROE Permit will be executed prior to entering the pasture for reclamation activities;
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following Fall to assess the success of regrowth. If necessary, an additional application of the NMSLO-approved pure live seed mixture will be applied as well as any needed BMPs will be installed to support growth and limit erosion; and
- Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.

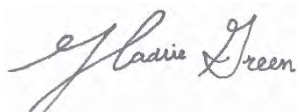
### Schedule and Reporting

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 concurrence. If laboratory analytical results do indicate the presence of impacted soil in the vicinity of equipment and/or lines on pad, BTA will submit a Deferral Request for impacts that are left in-place and to be remediated when there is major Site reconstruction and/or the well pad is plugged and abandoned and the well pad is to be reclaimed.

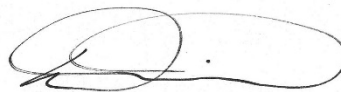
BTA believes the scope of work described above will meet requirements set forth in 19.15.29.12 NMAC as well as stipulation set forth in 19.2.100.67 NMAC for reclamation of Sites on State Trust Land. These measures are believed to be protective of human health, the environment, and groundwater. As such, BTA respectfully requests approval of this *Work Plan* from NMOCD and NMSLO.

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**



Hadlie Green  
Staff Geologist



Daniel R. Moir, PG  
Senior Managing Geologist

cc: Kelton Beaird, BTA  
Nathan Sirgo, BTA  
NMSLO ECO

BTA Oil Producers, LLC  
Remediation Work Plan  
Gem 4, 5, 7, 10 Battery, 8705 JV-P

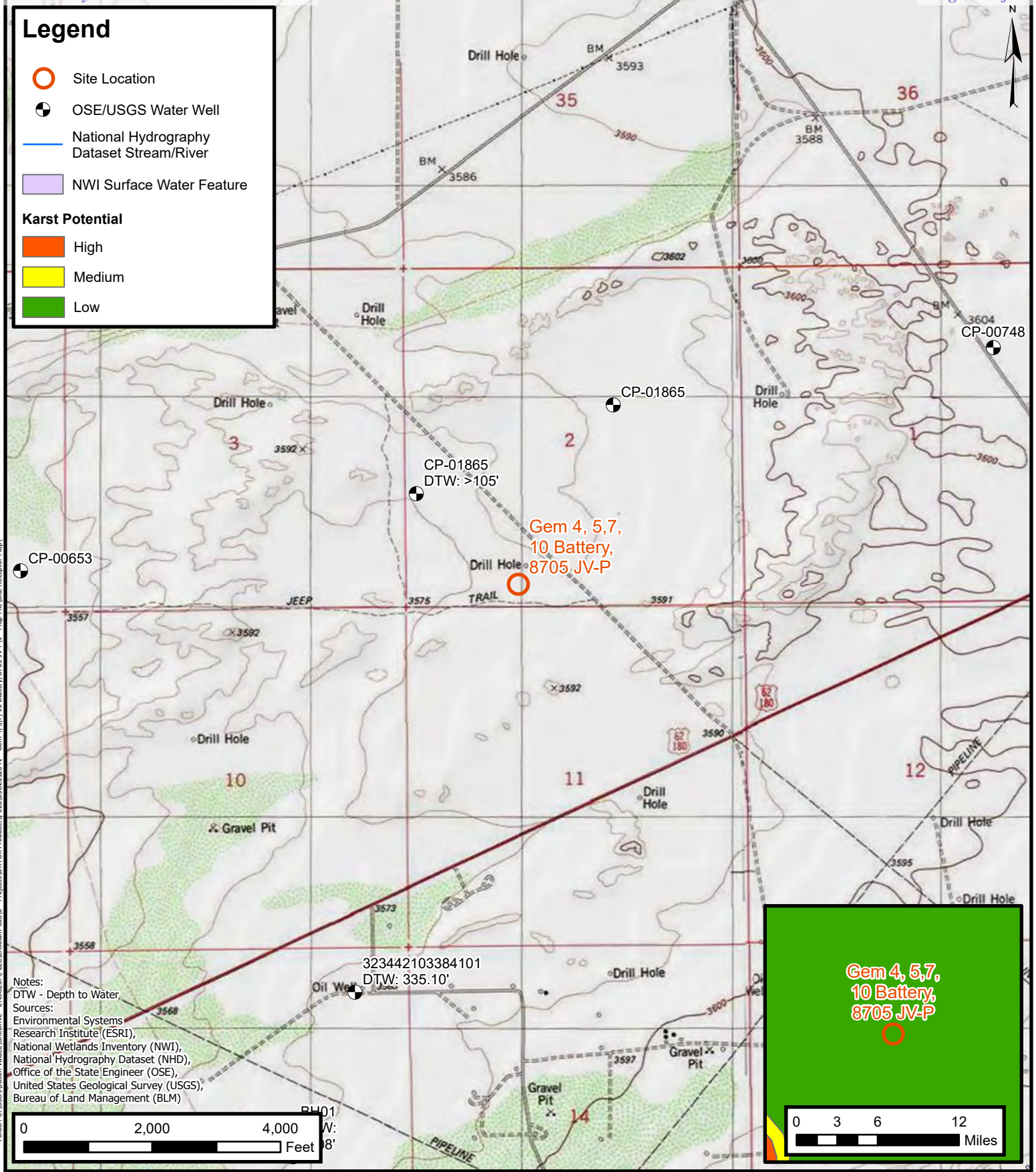
Appendices:

Figure 1 Sensitive Receptor Map  
Figure 2 Proposed Remedial Actions  
Appendix A Referenced Well Records  
Appendix B *Site Summary and Spill Remediation Proposal*, dated August 21, 2019  
Appendix C Form C-141





FIGURES



**ENSOLUM**  
Environmental, Engineering and  
Hydrogeologic Consultants

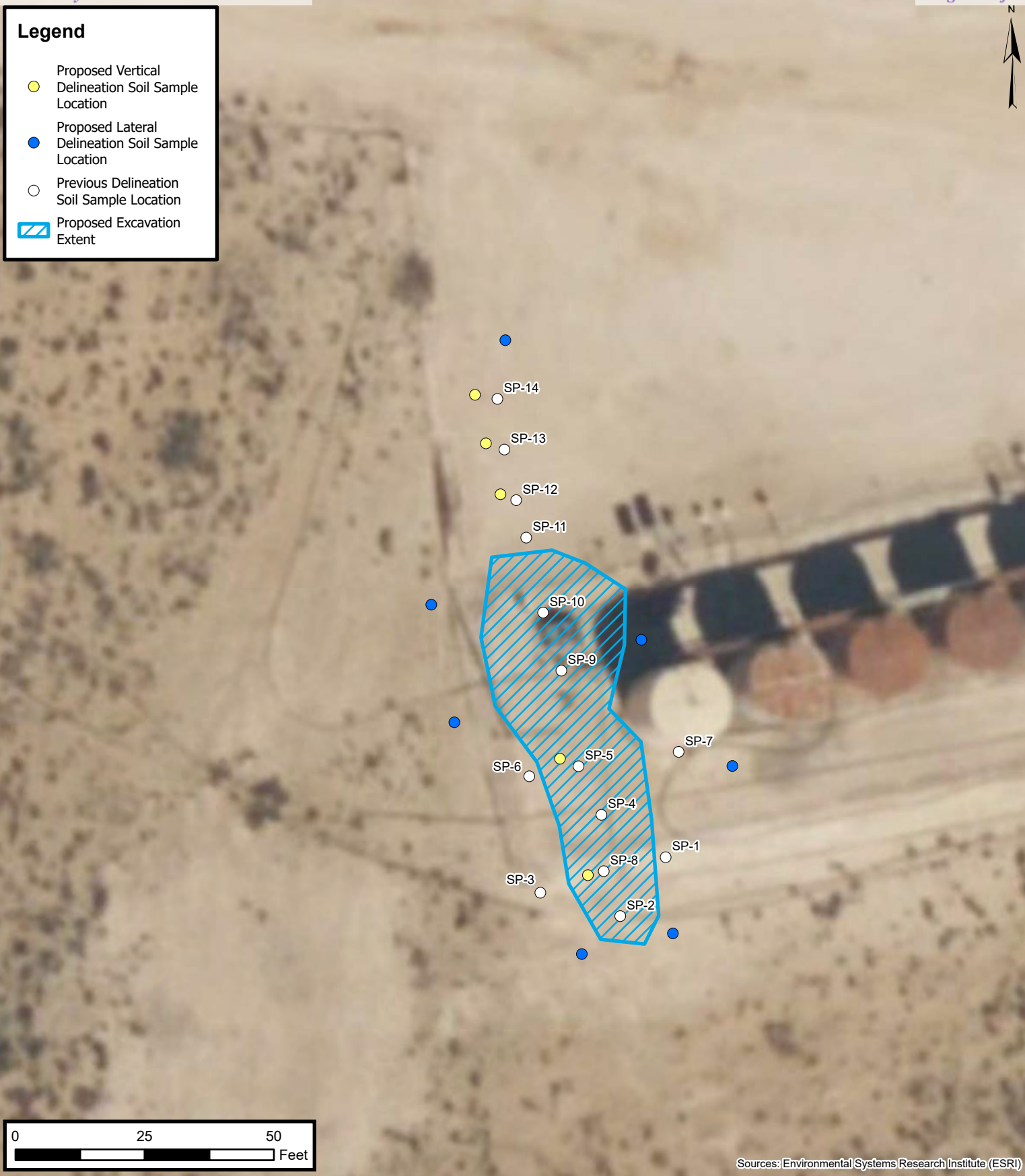
**Sensitive Receptor Map**  
BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number: nCH1903263128  
Unit N, Sec 2, 20S, 33E  
Lea County, New Mexico

**FIGURE**  
**1**



## Legend

- Proposed Vertical Delineation Soil Sample Location
- Proposed Lateral Delineation Soil Sample Location
- Previous Delineation Soil Sample Location
- Proposed Excavation Extent



Sources: Environmental Systems Research Institute (ESRI)



## Proposed Remedial Actions

BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number: nCH1903263128  
Unit N, Sec 2, 20S, 33E  
Lea County, New Mexico

**FIGURE**  
**2**



## APPENDIX A

### Referenced Well Records

---



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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

OSE DTI JUL 22 2021 PM 2:05

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD2 CP-1865		WELL TAG ID NO.		OSE FILE NO(S). CP-01865			
	WELL OWNER NAME(S) BTA OIL PRODUCERS, LLC				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S PECOS ST				CITY MIDLAND	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 35	SECONDS 59 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND			
		LONGITUDE -103	38	30.4 W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE LEA SECTION 2 TOWNSHIP 20S RANGE 33E								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1753		NAME OF LICENSED DRILLER JACOB FRIESEN			NAME OF WELL DRILLING COMPANY VANGURD		
	DRILLING STARTED 2-8-21	DRILLING ENDED 2-8-21	DEPTH OF COMPLETED WELL (FT) 105	BORE HOLE DEPTH (FT) 105	DEPTH WATER FIRST ENCOUNTERED (FT) 0			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 0			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input 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)	SLOT SIZE (inches)
	FROM	TO						
	-1	99	4.5	BLANK PVC	THREAD 2.375	2	.187	
	99	105	4.5	SCREEN PVC	THREAD 2.375	2	.187	.02
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	99	4.5	GROUT	8	POURED		
	99	105	4.5	SILICA SAND	.5	POURED		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO. <u>C-1865</u>	POD NO. <u>2</u>	TRN NO. <u>086912</u>
LOCATION <u>20S-33E-02</u>	<u>3.1-B</u>	WELL TAG ID NO. <u>NA</u>
		PAGE 1 OF 2



#### 4. HYDROGEOLOGIC LOG OF WELL

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 04/30/2019)	
FILE NO. C-1865	POD NO. 2	TRN NO. 686912	
LOCATION 205-33E-02	3-1-3	WELL TAG ID NO. NA	PAGE 2 OF 2



## APPENDIX B

Site Summary and Spill Remediation Proposal,

Dated August 21, 2019

---

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Spill Remediation Proposal



**Company:** BTA Oil Producers, LLC **Address:** 104 S. Pecos St., Midland, TX 79701 **Telephone #:** (432) 390-2828

**Site Name:** Gem 4,5,7,10 Battery 8705 JV-P **NMOCD Reference#:** 1RP-5309

**Surface Owner:** State of New Mexico **Mineral Owner:** State of New Mexico

**Unit Letter:** N **Section:** 2 **Township:** 20S **Range:** 33E **County:** Lea **GPS Coordinates:** 32.59584 N -103.63667 W

**Date/Time of Release:** 12/7/2018 **Type of Release:** ☐ Crude Oil ☒ Produced Water

**Volume(s) Released:** 6 bbls **Volume(s) Recovered:** 1 bbl

**Closure Criteria for Impacted Soil (mg/kg; See Appendix C, "Closure Criteria Justification"):**

**Benzene:** 10 **BTEX:** 50 **GRO+DRO:** 1,000 **TPH:** ☐ 100 **Chloride:** ☐ 600  
☒ 2,500 ☐ 10,000  
☒ 20,000

### Background Information:

On December 7, 2018, BTA Oil Producers, LLC (BTA), discovered a release at the Gem 4,5,7,10 Battery, 8705 JV-P. Failure of a 45-degree connection on a 2-7/8-inch steel flowline from the battery to the salt water disposal (SWD) well resulted in the release of approximately 6 barrels (bbls) of produced water, which breached the earthen containment berm surrounding the battery. The spill and overspray affected a total area of the containment, caliche pad, and adjacent pasture measuring approximately 2,030 square feet. During initial response activities, the failed connection was repaired, and a vacuum truck was utilized to recover approximately 1 bbl of free-standing liquid.

The release was reported to the New Mexico Oil Conservation Division's (NMOCD) Hobbs District Office on December 18, 2018. The NMOCD "Release Notification & Corrective Action" form (C-141) is provided as Appendix A. General photographs of the release site are provided in Appendix B. A "Site Location Map" is provided as Figure 1.

### Summary of Field Activities:

On February 15, 2018, a hand auger was utilized to advance a series of 15 boreholes (SP-1 through SP-15) in the inferred impacted areas inside the containment area, on the caliche pad, and in the adjacent pasture to investigate the extent of impacted soil. The auger holes were advanced to total depths ranging from approximately 6 inches (SP-1 through SP-3, SP-5 through SP-7, and SP-9 through SP-14) to 6 feet (SP-4) below ground surface (bgs). Soil samples were collected at 6-inch to 1-foot vertical intervals and field-screened with a chloride test kit. Representative confirmation samples were submitted to Xenco Laboratories in Midland, Texas, for analysis of chloride, total petroleum hydrocarbons (TPH), and/or benzene, toluene, ethylbenzene, and total xylene (BTEX) concentrations using Environmental Protection Agency (EPA) Methods 300, SW 846-8015 Mod, and SW 846-8021B, respectively. Laboratory analytical results and field screens indicated the release may have commingled with a historical release (or releases), and additional delineation was required to determine the extent of chloride contamination. However, vertical delineation of TPH and BTEX contamination had been achieved.

On February 18, 2019, a backhoe was utilized to advance a delineation trench in the area represented by auger hole SP-8 to further investigate the vertical extent of chloride contamination in the pasture. The trench was advanced to a total depth of approximately 13 feet bgs. Soil samples were collected at 1- to 2-foot vertical intervals and field-screened with a chloride test kit. Representative confirmation samples were submitted to the laboratory for analysis of chloride, TPH, and BTEX concentrations. Laboratory analytical results indicated delineation of TPH and BTEX contamination had been achieved. However, additional delineation was required to determine the extent of chloride contamination.

On March 8, 2019, a hand auger was utilized to re-enter auger holes SP-5, SP-9, SP-10, and SP-11 to further investigate the vertical extent of chloride contamination in those areas. The auger holes were advanced to total depths ranging from 5.5 feet (SP-9) to 6 feet bgs (SP-5, SP-10, and SP-11). Soil samples were collected at 1- to 2-foot vertical intervals and field-screened with a chloride test kit. Representative confirmation samples were submitted to the laboratory for analysis of chloride, TPH, and BTEX concentrations. Laboratory analytical results indicated delineation of

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Spill Remediation Proposal



### Summary of Field Activities (cont.):

TPH and BTEX contamination had been achieved. However, additional delineation was required to determine the extent of chloride contamination in the area represented by auger hole SP-5.

On April 2, 2019, a backhoe was utilized to advance a delineation trench in the area represented by auger holes SP-4 and SP-5 (which are less than 10 feet apart), as well as re-enter and further advance delineation trench SP-8. The trenches were advanced to total depths ranging from approximately 13 feet (SP-4) to 16 feet (SP-8) bgs. Soil samples were collected at 1- to 2-foot vertical intervals and field-screened with a chloride test kit. Representative confirmation samples were submitted to the laboratory for analysis of chloride, TPH, and BTEX concentrations. Laboratory analytical results indicated delineation of chloride, TPH, and BTEX contamination had been achieved.

Locations of the auger holes and delineation trenches are depicted in Figure 2, "Site Plan". Laboratory analytical results are summarized in Table 1, and analytical reports are provided in Appendix D. Chloride field test results are summarized in Table 2.

### Proposed Activities:

BTA proposes to conduct the following activities to progress the Gem 4,5,7,10 Battery, 8705 JV-P release site to an NMOCD- and NMSLO-approved closure:

- The areas represented by auger holes SP-10 and SP-11 will be excavated to a total depth of 2 feet bgs.
- The area represented by auger hole/delineation trench SP-4 will be excavated as necessary to remove all visibly stained soil, with anticipated depths ranging from 2 to 4 feet bgs.
- The areas represented by auger holes/delineation trenches SP-5, SP-8, and SP-9 will be excavated to total depths of 4 feet bgs. The excavations will be advanced horizontally to the areas represented by auger holes SP-1, SP-2, SP-3, SP-6, and SP-7. Representative 5-point composite soil samples will be collected from the sidewalls of the excavations and submitted to Cardinal Laboratories for confirmatory analyses of chloride, TPH, and BTEX concentrations using the EPA analytical methods listed in the "Summary of Field Activities" above. Each composite sample will represent an area measuring no larger than 200 square feet.
- No excavation or additional remediation will be conducted in the areas represented by auger holes SP-12, SP-13, and SP-14.
- All excavated soil will be stockpiled on 6-mil plastic, pending transfer to Lea Land, Inc. (NMOCD Permit #WM-01-035), for disposal.
- The total volume of impacted soil to be excavated is approximately 226 cubic yards.
- All open excavations will be fenced off during periods of inactivity to prevent injury to oilfield personnel, livestock, and/or wildlife.
- Following remediation activities, the excavation(s) will be backfilled with locally acquired, non-impacted material, compacted, and contoured to fit the surrounding topography. Prior to backfilling, 20-mil, impermeable, plastic liners and felt padding will be installed on the floors of the excavations in the areas represented by auger holes/delineation trenches SP-5 and SP-8. These engineered controls will serve to inhibit vertical migration of contaminants remaining in-situ.
- The aforementioned corrective actions will be completed within 45 days of receipt of approval of this proposal by the NMOCD and NMSLO. Upon completion of the proposed tasks, a "Remediation Summary & Closure Request" will be submitted to the NMOCD and NMSLO, documenting remediation activities and results of confirmation soil samples.

# Trinity Oilfield Services & Rentals, LLC

## Environmental Site Summary & Spill Remediation Proposal



### Enclosures:

Figure 1: Site Location Map

Figure 2: Site Plan

Table 1: Concentrations of Benzene, BTEX, TPH & Chloride in Soil

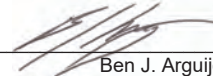
Table 2: Field Tests

Appendix A: Release Notification & Corrective Action (Form C-141)

Appendix B: Photographs

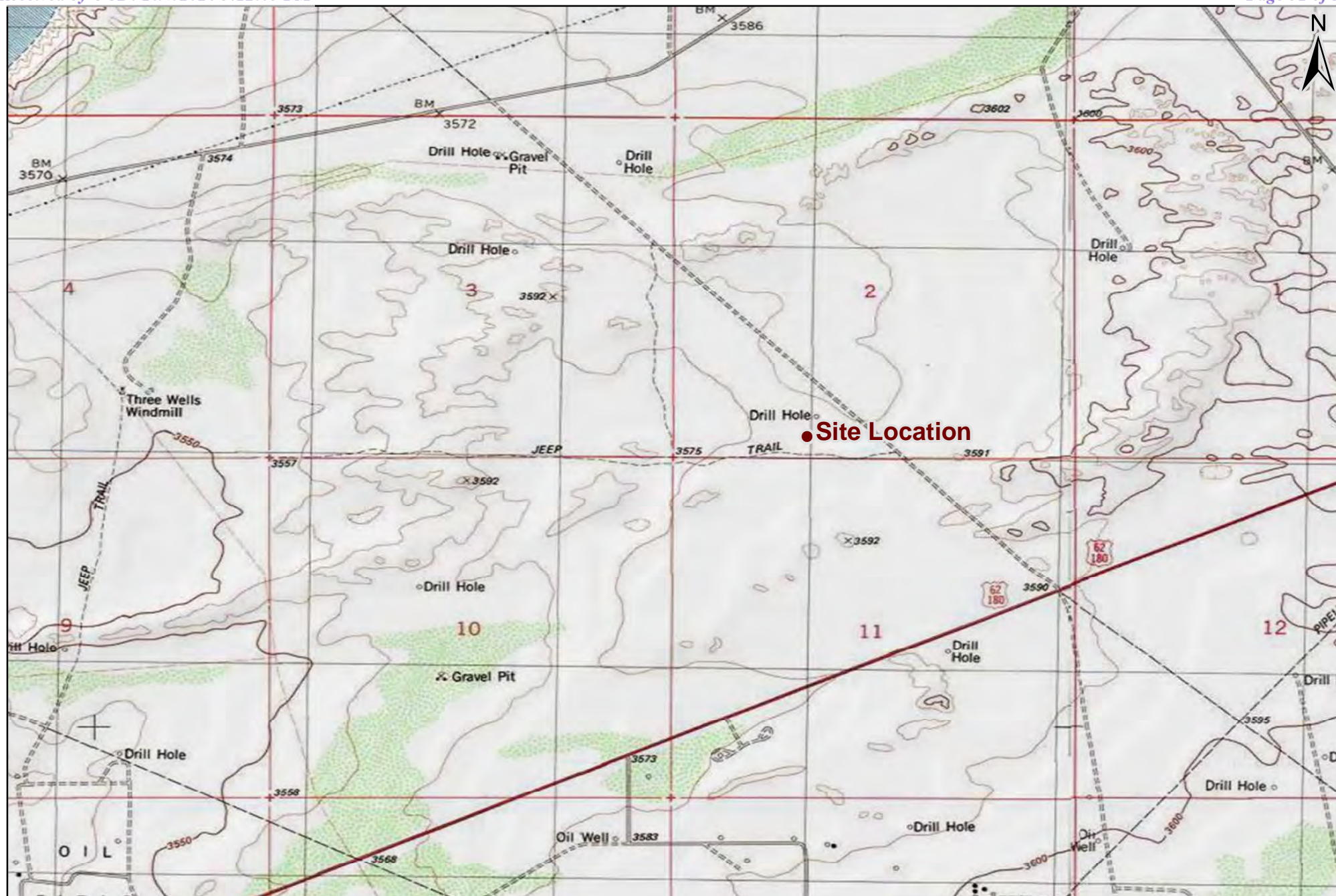
Appendix C: Closure Criteria Justification

Appendix D: Laboratory Analytical Results

 8/21/2019  
Ben J. Arguijo  
Project Manager

# Figures





2,000 1,000 0 2,000  
 Distance in Feet

**Figure 1**  
**Site Location Map**  
 BTA Oil Producers, LLC  
 Gem 4,5,7,10 Battery, 8705 JV-P  
 Lea County, New Mexico  
 NMOCD Reference #: 1RP-5309



Trinity Oilfield Services & Rentals, LLC  
 P.O. Box 2587  
 Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
March 26, 2019	Scale: 1" = 2,000'



**Legend**

Proposed Excavation Depths

- 2' bgs
- 2' - 4' bgs
- 4' bgs
- Delineation Trench
- Proposed Liner
- Auger Hole

**Figure 2**  
**Site Plan**  
**BTA Oil Producers, LLC**  
**Gem 4,5,7,10 Battery**  
**Lea County, New Mexico**  
**NMOCD Reference #: 1RP-5309**



Trinity Oilfield Services & Rentals, LLC  
 P.O. Box 2587  
 Hobbs, NM 88241

Drawn By: BJA      Checked By: JEH

August 21, 2019      Scale: 1" = 18'

# Tables

TABLE 1  
CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL

BTA OIL PRODUCERS, LLC  
GEM 4,5,7,10 BATTERY, 8705 JV-P  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: 1RP-5309



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M					EPA 300
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limit (mg/kg)				10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-1	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
SP-2	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	112	112	85.5	198	192
SP-3	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SP-4 @ 4.5'	4.5'	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,000
SP-4 @ 6'	6'	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	15,600
SP-4 @ 7'	7'	4/2/2019	In-Situ	-	-	-	-	-	-	-	-	-	-	1,280
SP-4 @ 8'	8'	4/2/2019	In-Situ	-	-	-	-	-	-	-	-	-	-	7,760
SP-4 @ 10'	10'	4/2/2019	In-Situ	-	-	-	-	-	-	-	-	-	-	6,480
SP-4 @ 13'	13'	4/2/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,760
SP-5	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	17,400
SP-5 @ 2'	2'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	27,600
SP-5 @ 6'	6'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	26,400
SP-6	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SP-7	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SP-8 @ 4'	4'	2/18/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
SP-8 @ 13'	13'	2/18/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,120
SP-8 @ 14'	14'	4/2/2019	In-Situ	-	-	-	-	-	-	-	-	-	-	2,360
SP-8 @ 16'	16'	4/2/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	880
SP-9	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	21,600
SP-9 @ 2'	2'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	34,000
SP-9 @ 5.5'	5.5'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,200
SP-10	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	25,200
SP-10 @ 4'	4'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,080
SP-10 @ 6'	6'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,200
SP-11	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,240
SP-11 @ 2.5'	2.5'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,760
SP-11 @ 6'	6'	3/8/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	97.6	97.6	<10.0	97.6	4,320

NE = Not established

- = Not analyzed

Concentrations in **BOLD** exceed the NMOCD Closure Limit



**TABLE 1**  
**CONCENTRATIONS OF BENZENE, BTEX, TPH & CHLORIDE IN SOIL**

BTA OIL PRODUCERS, LLC  
 GEM 4,5,7,10 BATTERY, 8705 JV-P  
 LEA COUNTY, NEW MEXICO  
 NMOCD REFERENCE #: 1RP-5309



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	EPA SW-846 Method 8021B					EPA SW-846 Method 8015M					EPA 300
				BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	TOTAL BTEX (mg/kg)	GRO C6-C12 (mg/kg)	DRO C12-C28 (mg/kg)	GRO+ DRO (mg/kg)	MRO C28-C35 (mg/kg)	TPH C6-C35 (mg/kg)	CHLORIDE (mg/kg)
NMOCD Closure Limit (mg/kg)				10	NE	NE	NE	50	NE	NE	1,000	NE	2,500	20,000
SP-12	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,470
SP-13	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
SP-14	6"	2/15/2019	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,320

NE = Not established

- = Not analyzed

Concentrations in **BOLD** exceed the NMOCD Closure Limit

**TABLE 2  
FIELD TESTS**

**BTA OIL PRODUCERS, LLC  
GEM 4,5,7,10 BATTERY, 8705 JV-P  
LEA COUNTY, NEW MEXICO  
NMOCD REFERENCE #: 1RP-5309**



SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	HACH QUANTAB
				CHLORIDE (mg/Kg)
NMOCD Closure Limit (mg/kg)				20,000
SP-1 @ 6"	6"	2/15/2019	In-Situ	292
SP-2 @ 6"	6"	2/15/2019	In-Situ	228
SP-3 @ 6"	6"	2/15/2019	In-Situ	168
SP-4 @ 2.5'	2.5'	2/15/2019	In-Situ	3,408
SP-4 @ 4.5'	4.5'	2/15/2019	In-Situ	6,076
SP-4 @ 6'	6'	2/15/2019	In-Situ	10,884
SP-5 @ 6"	6"	2/15/2019	In-Situ	11,888
SP-5 @ 2'	2'	3/8/2019	In-Situ	14,080
SP-5 @ 3'	3'	3/8/2019	In-Situ	12,736
SP-5 @ 4'	4'	3/8/2019	In-Situ	6,256
SP-5 @ 5'	5'	3/8/2019	In-Situ	15,636
SP-5 @ 6'	6'	3/8/2019	In-Situ	10,524
SP-6 @ 6"	6"	2/15/2019	In-Situ	<128
SP-7 @ 6"	6"	2/15/2019	In-Situ	292
SP-8 @ 6"	6"	2/15/2019	In-Situ	1,156
SP-8 @ 1'	1'	2/15/2019	In-Situ	1,240
SP-8 @ 2'	2'	2/15/2019	In-Situ	1,156
SP-9 @ 6"	6"	2/15/2019	In-Situ	19,276
SP-9 @ 2'	2'	3/8/2019	In-Situ	15,636
SP-9 @ 4'	4'	3/8/2019	In-Situ	11,560
SP-9 @ 5.5'	5.5'	3/8/2019	In-Situ	1,432
SP-10 @ 6"	6"	2/15/2019	In-Situ	17,376
SP-10 @ 2'	2'	3/8/2019	In-Situ	3,824
SP-10 @ 4'	4'	3/8/2019	In-Situ	7,396
SP-10 @ 6'	6'	3/8/2019	In-Situ	6,256
SP-11 @ 6"	6"	2/15/2019	In-Situ	1,924
SP-11 @ 2'	2'	3/8/2019	In-Situ	3,824
SP-11 @ 4'	4'	3/8/2019	In-Situ	2,500
SP-11 @ 6'	6'	3/8/2019	In-Situ	2,428
SP-12 @ 6"	6"	2/15/2019	In-Situ	1,332
SP-13 @ 6"	6"	2/15/2019	In-Situ	4,348
SP-14 @ 6"	6"	2/15/2019	In-Situ	1,924

# Appendices

# **Appendix A**

## **Release Notification & Corrective Action (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	NCH1903263128
District RP	1RP-5309
Facility ID	
Application ID	pCH1903263832

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # NCH1903263128 GEM 4, 5, 7, 10 BATTERY, 8705 JV-P @ 30-025-31209
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.59584° Longitude: -103.63667°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Gem 4, 5, 7, 10 Battery, 8705 JV-P	Site Type: Tank Battery
Date Release Discovered: 12/7/2018	API# (if applicable) Nearest well: Gem #4 API #30-025-31209

Unit Letter	Section	Township	Range	County
N	2	20S	33E	Lea

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 6 BBL	Volume Recovered (bbls) 1 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<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

Failure at a 45 degree connection in a 2-7/8" flowline leaving the Gem 4, 5, 7, 10 Battery, 8705 JV-P that connects to the SWD well.


State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
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 checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" 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:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: Bob Hall Title: Environmental Manager
Signature:  Date: 12/18/2018
email: bhall@btaoil.com Telephone: 432-682-3753
<b>OCD Only</b> Received by: <b>RECEIVED</b> <b>By CHernandez at 5:27 pm, Feb 01, 2019</b>

# **Appendix B**

# **Photographs**

**BTA Oil Producers, LLC – Gem 4,5,7,10 Battery, 8705 JV-P**  
Unit Letter “N” (SE/SW), Section 2, Township 20S, Range 33E



Release (Looking South-Southwest)



Release (Looking Southwest)



**BTA Oil Producers, LLC – Gem 4,5,7,10 Battery, 8705 JV-P**

Unit Letter "N" (SE/SW), Section 2, Township 20S, Range 33E



Release Site (Looking North)



Release site (Looking Northeast)



**BTA Oil Producers, LLC – Gem 4,5,7,10 Battery, 8705 JV-P**

Unit Letter "N" (SE/SW), Section 2, Township 20S, Range 33E



Release Site (Looking East-Northeast)



Release Site (Looking West-Northwest)

# **Appendix C**

## **Closure Criteria Justification**

**TABLE 3  
CLOSURE CRITERIA JUSTIFICATION**

**BTA OIL PRODUCERS, LLC  
GEM 4,5,7,10 BATTERY, 8705 JV-P  
LEA COUNTY, NEW MEXICO  
NMOCD REF. #: 1RP-5309**

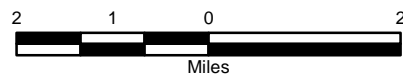
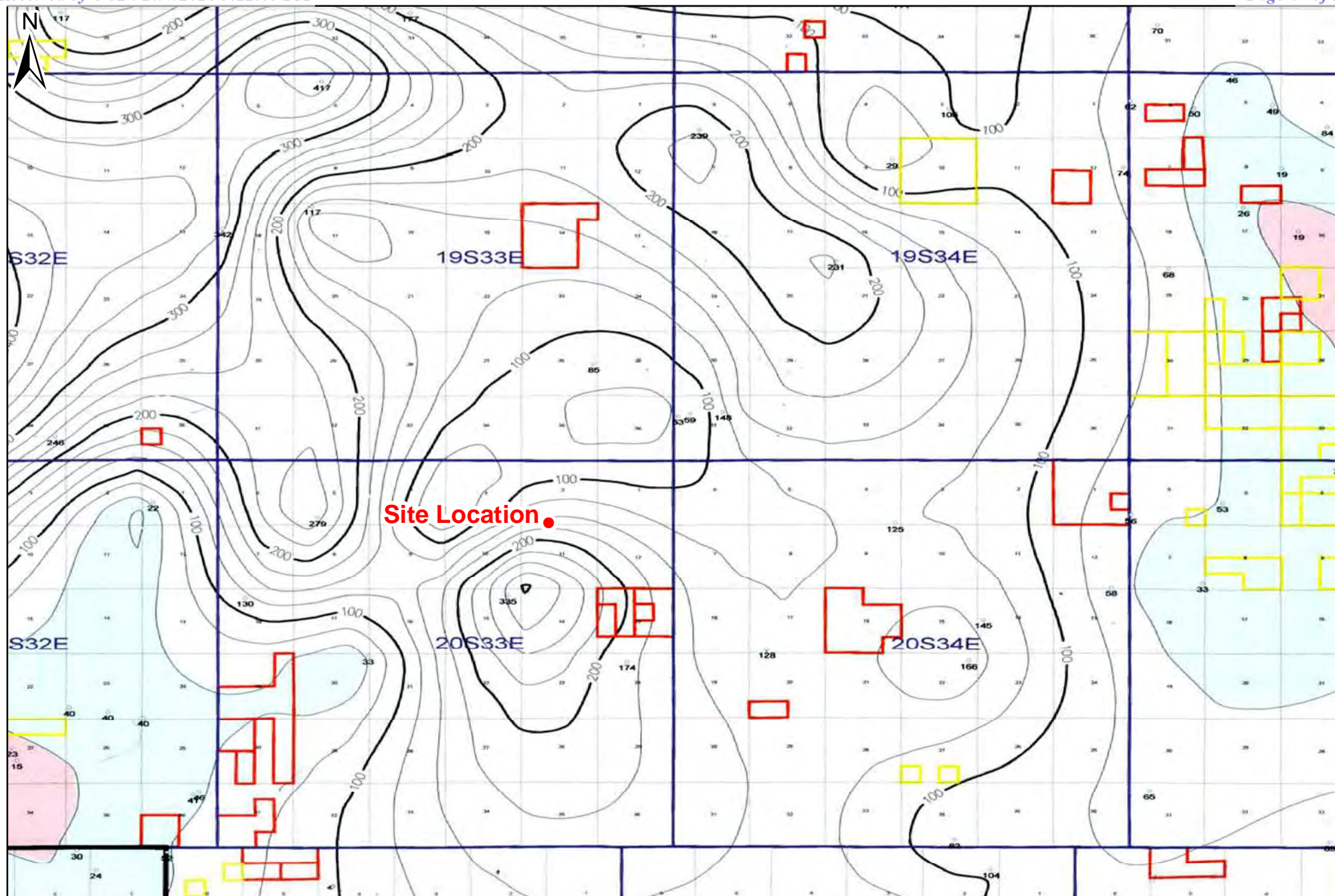


Groundwater, Water Wells & Other Water Sources	
Depth to groundwater (ft)?	160-165
Horizontal distance (ft) from all water sources within 0.5 miles?	N/A
Within 500' of a spring or a private, domestic fresh water well used by less than 5 households for domestic or stock watering purposes?	No
Within 1000' of any fresh water well or spring?	No
Surface Water	
Horizontal distance (ft) to nearest significant watercourse?	>1,000
Within 300' of any continuously flowing watercourse or any other significant watercourse?	No
Within 200' of any lakebed, sinkhole or playa lake?	No
Human-Occupied, Environmental & Other Areas	
Within incorporated municipal boundaries or within a defined municipal fresh water well field?	No
Within 300' of an occupied permanent residence, school, hospital, institution or church?	No
Within 300' of a wetland?	No
Within the area overlying a subsurface mine?	No
Within an unstable area?	No
Within a 100-year floodplain?	No

Closure Criteria (mg/kg)*				
Benzene	BTEX	GRO + DRO	TPH	Chloride
10	50	1,000	2,500	20,000

\*Numerical limits or natural background level, whichever is greater





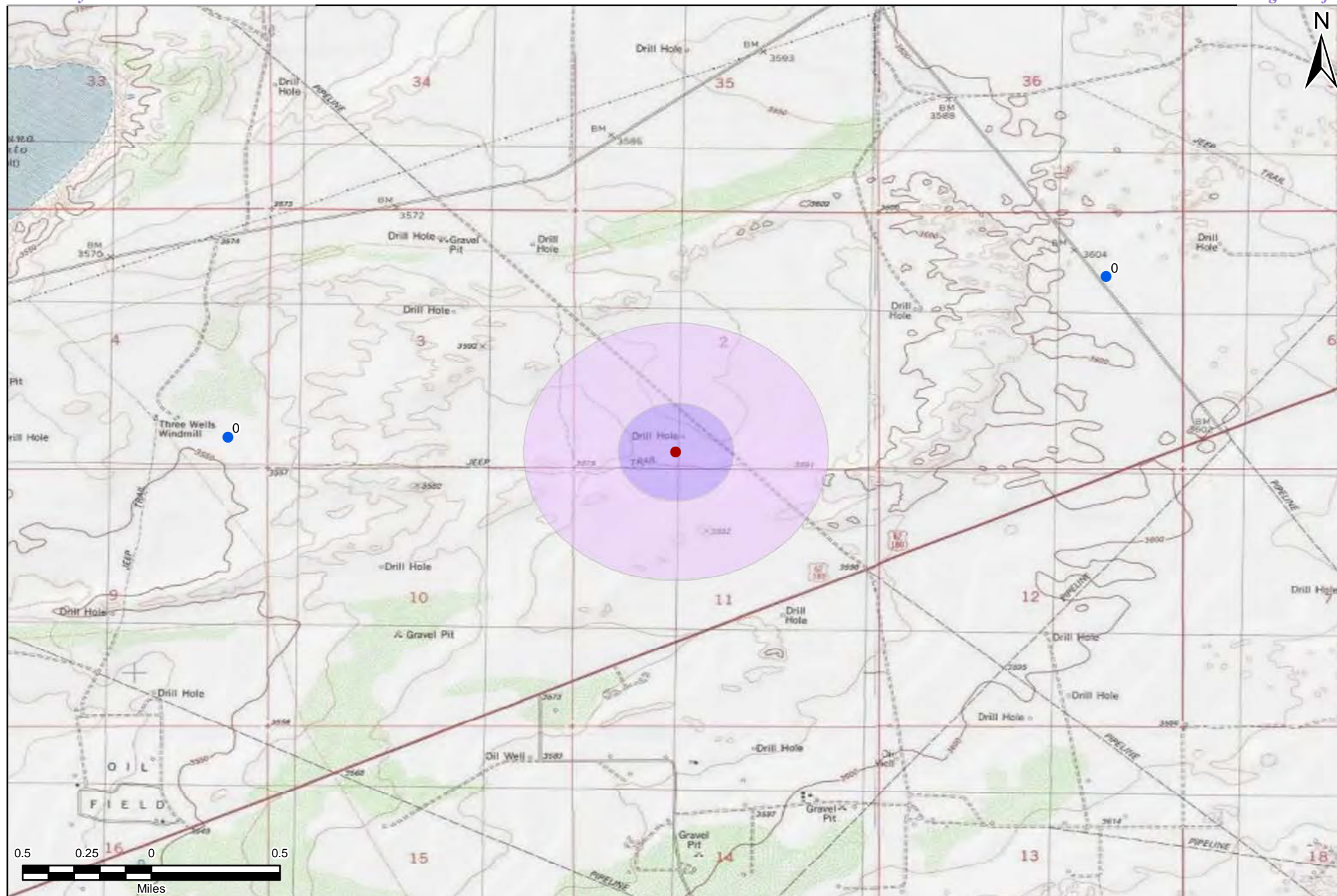
**Figure 3**  
**Depth-to-Groundwater Trend Map**  
 BTA Oil Producers, LLC  
 Gem 4,5,7,10 Battery, 8705 JV-P  
 Lea County, New Mexico  
 NMOCD Reference #: 1RP-5309




Trinity Oilfield Services & Rentals, LLC  
 P.O. Box 2587  
 Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
March 26, 2019	Scale: 1" = 2mi





**Legend**

	1,000-ft Radius		Site Location
	0.5-mi Radius		NMOSE Depth to Water

**Figure 4**  
**Vicinity & Wellhead Protection Area Map**  
**BTA Oil Producers, LLC**  
**Gem 4,5,7,10 Battery, 8705 JV-P**  
**Lea County, New Mexico**  
**NMOCD Reference #: 1RP-5309**



Trinity Oilfield Services & Rentals, LLC  
P.O. Box 2587  
Hobbs, NM 88241

Drawn By: BJA	Checked By: JEH
March 26, 2019	Scale: 1" = 0.5mi





# New Mexico Office of the State Engineer Water Column/Average Depth to Water

---

No records found.

## UTMNAD83 Radius Search (in meters):

**Easting (X):** 627939.18

**Northing (Y):** 3607303.25

**Radius:** 1610  
(1 mile)

---

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

---

2/15/19 5:23 PM

Page 1 of 1

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

# **Appendix D**

## **Laboratory Analytical Reports**



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

---

February 28, 2019

BEN ARGUIJO

TRINITY OILFIELD SERVICES & RENTALS, LLC

P. O. BOX 2587

HOBBS, NM 88241

RE: GEM 4,5,7,10 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 02/21/19 16:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 1 (H900697-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/25/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/23/2019	ND	191	95.3	200	1.12	
DRO >C10-C28*	<10.0	10.0	02/23/2019	ND	228	114	200	13.6	
EXT DRO >C28-C36	<10.0	10.0	02/23/2019	ND					

Surrogate: 1-Chlorooctane 95.2 % 41-142

Surrogate: 1-Chlorooctadecane 99.9 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 2 (H900697-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/25/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	112	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	85.5	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 81.5 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 3 (H900697-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.3-129

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	02/25/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 4 @ 4.5' (H900697-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32		
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86		
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16		
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22		
Total BTEX	<0.300	0.300	02/27/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8000	16.0	02/25/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 4 @ 6' (H900697-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEx	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	15600	16.0	02/25/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 99.9 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 5 (H900697-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	17400	16.0	02/25/2019	ND	432	108	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 99.1 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 6 (H900697-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

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	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 7 (H900697-08)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/18/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 8 @ 4' (H900697-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 95.1 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/18/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 8 @ 13' (H900697-10)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEx	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 9 (H900697-11)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/27/2019	ND	1.91	95.3	2.00	4.32	
Toluene*	<0.050	0.050	02/27/2019	ND	2.10	105	2.00	2.86	
Ethylbenzene*	<0.050	0.050	02/27/2019	ND	2.25	113	2.00	5.16	
Total Xylenes*	<0.150	0.150	02/27/2019	ND	6.43	107	6.00	4.22	
Total BTEX	<0.300	0.300	02/27/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21600	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 10 (H900697-12)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2019	ND	1.94	97.0	2.00	2.34	
Toluene*	<0.050	0.050	02/26/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	02/26/2019	ND	2.20	110	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/26/2019	ND	6.35	106	6.00	2.82	
Total BTX	<0.300	0.300	02/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	25200	16.0	02/25/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 11 (H900697-13)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2019	ND	1.94	97.0	2.00	2.34	
Toluene*	<0.050	0.050	02/26/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	02/26/2019	ND	2.20	110	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/26/2019	ND	6.35	106	6.00	2.82	
Total BTEX	<0.300	0.300	02/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2240	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 12 (H900697-14)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2019	ND	1.94	97.0	2.00	2.34	
Toluene*	<0.050	0.050	02/26/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	02/26/2019	ND	2.20	110	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/26/2019	ND	6.35	106	6.00	2.82	
Total BTEX	<0.300	0.300	02/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1470	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 107 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 13 (H900697-15)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2019	ND	1.94	97.0	2.00	2.34	
Toluene*	<0.050	0.050	02/26/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	02/26/2019	ND	2.20	110	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/26/2019	ND	6.35	106	6.00	2.82	
Total BTEX	<0.300	0.300	02/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4800	16.0	02/25/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 02/21/2019  
 Reported: 02/28/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 02/15/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 14 (H900697-16)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2019	ND	1.94	97.0	2.00	2.34	
Toluene*	<0.050	0.050	02/26/2019	ND	2.15	108	2.00	1.81	
Ethylbenzene*	<0.050	0.050	02/26/2019	ND	2.20	110	2.00	2.27	
Total Xylenes*	<0.150	0.150	02/26/2019	ND	6.35	106	6.00	2.82	
Total BTEX	<0.300	0.300	02/26/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2320	16.0	02/25/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/25/2019	ND	218	109	200	6.25	
DRO >C10-C28*	<10.0	10.0	02/25/2019	ND	237	119	200	1.72	
EXT DRO >C28-C36	<10.0	10.0	02/25/2019	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 113 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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.

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

Celey D. Keene, Lab Director/Quality Manager



**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Page 1 of 2

Company Name: Trinity Oilfield Services & Rentals, LLC										<b>BILL TO</b>										<b>ANALYSIS REQUEST</b>																																							
Project Manager: Ben J. Arguijo										P.O. #:										<div style="display: flex; flex-direction: column; align-items: center;"> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> <div>Chloride</div> </div>																																							
Address: P.O. Box 2587										Company: BTA Oil Producers, LLC																																																	
City: Hobbs State: NM Zip: 88241										Attn: Bob Hall																																																	
Phone #: (575)390-7208 Fax #:										Address: 104 S. Pecos St.																																																	
Project #: Project Owner: BTA Oil Producers, LLC										City: Midland																																																	
Project Name: Gem 4,5,7,10 Battery										State: TX Zip: 79701																																																	
Project Location: Lea Co., NM										Phone #: (432)682-3753																																																	
Sampler Name: Josh Halcomb										Fax #:																																																	
FOR LAB USE ONLY										MATRIX										PRESERV.										SAMPLING																													
Lab I.D.										Sample I.D.										(GRAB OR (C)OMP. # CONTAINERS										GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER:										DATE TIME																			
H900697																																																											
1 SP-1										G 1										X										X										2/15/19 0905										X X X									
2 SP-2										G 1										X										X										2/15/19 0908										X X X									
3 SP-3										G 1										X										X										2/15/19 0909										X X X									
4 SP-4 @ 4.5'										G 1										X										X										2/15/19 1057										X X X									
5 SP-4 @ 6'										G 1										X										X										2/15/19 1200										X X X									
6 SP-5										G 1										X										X										2/15/19 1122										X X X									
7 SP-6										G 1										X										X										2/15/19 1503										X X X									
8 SP-7										G 1										X										X										2/15/19 1500										X X X									
9 SP-8 @ 4'										G 1										X										X										2/18/19 1057										X X X									
10 SP-8 @ 13'										G 1										X										X										2/18/19 1615										X X X									

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:		Date:	Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Josh Halcomb		2-21-19	Tamara Oldat		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:	
Relinquished By:		Date:	Received By:		REMARKS:	
JH		16:40			Call for BTEX instructions.	
Delivered By: (Circle One)		Time:	CHECKED BY: (Initials)		Please e-mail results to ben@trinityoilfieldservices.com	
Sampler - UPS - Bus - Other:		5.2c H97	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		TO.	

FORM-006  
Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476





**(575) 393-2326 FAX (575) 393-2476**

## Page 2 of 2

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Please e-mail results to [ben@trinityoilfieldservices.com](mailto:ben@trinityoilfieldservices.com)



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

March 15, 2019

BEN ARGUIJO

TRINITY OILFIELD SERVICES & RENTALS, LLC

P. O. BOX 2587

HOBBS, NM 88241

RE: GEM 4,5,7,10 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 03/11/19 10:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 5 @ 2' (H900958-01)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	27600	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 107 % 41-142

Surrogate: 1-Chlorooctadecane 110 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 5 @ 6' (H900958-02)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	26400	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 9 @ 2' (H900958-03)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	34000	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 9 @ 5.5' (H900958-04)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3200	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 10 @ 4' (H900958-05)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6080	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 10 @ 6' (H900958-06)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7200	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 11 @ 2.5' (H900958-07)**

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322		
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65		
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32		
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03		
Total BTEX	<0.300	0.300	03/13/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5760	16.0	03/14/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	<10.0	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 03/11/2019  
 Reported: 03/15/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 03/08/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 11 @ 6' (H900958-08)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/13/2019	ND	2.12	106	2.00	0.322	
Toluene*	<0.050	0.050	03/13/2019	ND	1.93	96.4	2.00	1.65	
Ethylbenzene*	<0.050	0.050	03/13/2019	ND	2.06	103	2.00	1.32	
Total Xylenes*	<0.150	0.150	03/13/2019	ND	6.29	105	6.00	1.03	
Total BTEX	<0.300	0.300	03/13/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4320	16.0	03/14/2019	ND	416	104	400	3.77	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2019	ND	202	101	200	1.71	
DRO >C10-C28*	97.6	10.0	03/12/2019	ND	205	102	200	2.37	
EXT DRO >C28-C36	<10.0	10.0	03/12/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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.

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

---

Caley D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: Trinity Oilfield Services & Rentals, LLC										<b>BILL TO</b>										<b>ANALYSIS REQUEST</b>									
Project Manager: Ben J. Arguijo										P.O. #:										<div style="display: flex; flex-direction: column; align-items: center;"> <div>TPH (8015M)</div> <div>BTEX (8021B)</div> <div>Chloride</div> </div>									
Address: P.O. Box 2587										Company: BTA Oil Producers, LLC																			
City: Hobbs State: NM Zip: 88241										Attn: Bob Hall																			
Phone #: (575)390-7208 Fax #:										Address: 104 S. Pecos St.																			
Project #: Project Owner: BTA Oil Producers, LLC										City: Midland																			
Project Name: Gem 4,5,7,10 Battery										State: TX Zip: 79701																			
Project Location: Lea Co., NM										Phone #: (432)682-3753																			
Sampler Name: Josh Halcomb										Fax #:																			
FOR LAB USE ONLY																													
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING															
								GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :				ACID/BASE: ICE / COOL OTHER :		DATE TIME															
H900958																													
1		SP-5 @ 2'		G 1				X				X		3/8/19 0844		X X X													
2		SP-5 @ 6'		G 1				X				X		3/8/19 1210		X X X													
3		SP-9 @ 2'		G 1				X				X		3/8/19 0901		X X X													
4		SP-9 @ 5.5'		G 1				X				X		3/8/19 1049		X X X													
5		SP-10 @ 4'		G 1				X				X		3/8/19 1011		X X X													
6		SP-10 @ 6'		G 1				X				X		3/8/19 1055		X X X													
7		SP-11 @ 2.5'		G 1				X				X		3/8/19 0924		X X X													
8		SP-11 @ 6'		G 1				X				X		3/8/19 1103		X X X													

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:		Date: 3-11-19		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Time: 10:50						Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS:	
Time:							
Delivered By: (Circle One)				Sample Condition		CHECKED BY:	
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)	
4.4e #97				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		50	

Please e-mail results to ben@trinityoilfieldservices.com



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

April 12, 2019

BEN ARGUIJO

TRINITY OILFIELD SERVICES & RENTALS, LLC

P. O. BOX 2587

HOBBS, NM 88241

RE: GEM 4,5,7,10 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/10/19 9:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 04/10/2019  
 Reported: 04/12/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 04/02/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 4 @ 7' (H901298-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	04/11/2019	ND	400	100	400	3.92	

**Sample ID: SP - 4 @ 8' (H901298-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7760	16.0	04/11/2019	ND	400	100	400	3.92	

**Sample ID: SP - 4 @ 10' (H901298-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6480	16.0	04/11/2019	ND	400	100	400	3.92	

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.

Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 04/10/2019  
 Reported: 04/12/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 04/02/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 4 @ 13' (H901298-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/10/2019	ND	1.93	96.4	2.00	7.46	
Toluene*	<0.050	0.050	04/10/2019	ND	1.97	98.4	2.00	8.17	
Ethylbenzene*	<0.050	0.050	04/10/2019	ND	1.98	99.1	2.00	9.97	
Total Xylenes*	<0.150	0.150	04/10/2019	ND	5.86	97.6	6.00	10.1	
Total BTEX	<0.300	0.300	04/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7760	16.0	04/11/2019	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/10/2019	ND	209	104	200	0.845	
DRO >C10-C28*	<10.0	10.0	04/10/2019	ND	194	97.2	200	3.96	
EXT DRO >C28-C36	<10.0	10.0	04/10/2019	ND					

Surrogate: 1-Chlorooctane 96.7 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 04/10/2019  
 Reported: 04/12/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 04/03/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 8 @ 14' (H901298-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	04/11/2019	ND	400	100	400	3.92	

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.

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

TRINITY OILFIELD SERVICES & RENTALS, LLC  
 BEN ARGUIJO  
 P. O. BOX 2587  
 HOBBS NM, 88241  
 Fax To: NONE

Received: 04/10/2019  
 Reported: 04/12/2019  
 Project Name: GEM 4,5,7,10 BATTERY  
 Project Number: NONE GIVEN  
 Project Location: BTA - LEA CO NM

Sampling Date: 04/03/2019  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SP - 8 @ 16' (H901298-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/10/2019	ND	1.93	96.4	2.00	7.46	
Toluene*	<0.050	0.050	04/10/2019	ND	1.97	98.4	2.00	8.17	
Ethylbenzene*	<0.050	0.050	04/10/2019	ND	1.98	99.1	2.00	9.97	
Total Xylenes*	<0.150	0.150	04/10/2019	ND	5.86	97.6	6.00	10.1	
Total BTEX	<0.300	0.300	04/10/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.7 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	04/11/2019	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/10/2019	ND	209	104	200	0.845	
DRO >C10-C28*	<10.0	10.0	04/10/2019	ND	194	97.2	200	3.96	
EXT DRO >C28-C36	<10.0	10.0	04/10/2019	ND					

Surrogate: 1-Chlorooctane 91.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.6 % 37.6-147

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.

Celey D. Keene, Lab Director/Quality Manager



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

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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.

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

Celey D. Keene, Lab Director/Quality Manager

**ARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

[illegible]

**PLEASE NOTE:** Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>Daniel Raster</i> Date: <i>04/16/19</i> Time: <i>9:07</i>		Received By: <i>[Signature]</i> Date: <i>04/16/19</i> Time: <i>9:07</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #: _____ REMARKS:	
Relinquished By: <i>Felix Palmero</i> Date: <i>4/10/19</i> Time: <i>9:07</i>		Received By: <i>[Signature]</i> Date: <i>4/10/19</i> Time: <i>9:07</i>		Please e-mail results to <a href="mailto:ben@trinityoilfieldservices.com">ben@trinityoilfieldservices.com</a>	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		CHECKED BY: (Initials) <i>TO</i>	

FORM-006

Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476





## APPENDIX C

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	NCH1903263128
District RP	1RP-5309
Facility ID	
Application ID	pCH1903263832

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # NCH1903263128 GEM 4, 5, 7, 10 BATTERY, 8705 JV-P @ 30-025-31209
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.59584° Longitude: -103.63667°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Gem 4, 5, 7, 10 Battery, 8705 JV-P	Site Type: Tank Battery
Date Release Discovered: 12/7/2018	API# (if applicable) Nearest well: Gem #4 API #30-025-31209

Unit Letter	Section	Township	Range	County
N	2	20S	33E	Lea

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 6 BBL	Volume Recovered (bbls) 1 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<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

Failure at a 45 degree connection in a 2-7/8" flowline leaving the Gem 4, 5, 7, 10 Battery, 8705 JV-P that connects to the SWD well.


State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
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 checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" 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:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: Bob Hall Title: Environmental Manager
Signature:  Date: 12/18/2018
email: bhall@btaoil.com Telephone: 432-682-3753
<b>OCD Only</b> Received by: <b>RECEIVED</b> <b>By CHernandez at 5:27 pm, Feb 01, 2019</b>

Incident ID	nCH1903263128
District RP	1RP-5309
Facility ID	
Application ID	pCH1903263832

## 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>&gt;105</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

Page 4

State of New Mexico  
Oil Conservation Division

Incident ID	nCH1903263128
District RP	1RP-5309
Facility ID	
Application ID	pCH1903263832

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: 6-9-23email: kbeaird@btaoil.comTelephone: 432-312-2203**OCD Only**

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

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



Form C-141

Page 5

State of New Mexico  
Oil Conservation Division

Incident ID	nCH1903263128
District RP	1RP-5309
Facility ID	
Application ID	pCH1903263832

## 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 BeardTitle: Environmental ManagerSignature: Date: 6-9-23email: kbeaird@btaoil.comTelephone: 432-312-2203**OCD Only**

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

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: \_\_\_\_\_

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



## APPENDIX B

### NMSLO Cultural Resources Cover Sheet

---



Stephanie Garcia Richard, Commissioner of Public Lands  
State of New Mexico

## NMSLO Cultural Resources Cover Sheet Exhibit

NMCRIS Activity Number:

(if applicable)

Exhibit Type (select one)

☒ **ARMS Inspection/Review** - Summarize the results (select one):

- ☐ (A) The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties** were found within the survey area.
- ☐ (B) The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
- ☒ (C) The entire area of potential effect or project area has **not** been previously surveyed or **has not been surveyed** to current standards. A complete archaeological survey will be conducted and submitted for review.

☐ **Archaeological Survey**

Findings:

☐ **Negative** - No further archaeological review is required.

☐ **Positive** - Have avoidance and protection measures been devised? Select one:

**Comments:** Due to the location of the majority of the remediation area, on and immediately adjacent to an existing pad, and the amount of previous disturbance, BCA does not recommend any additional archaeological work for this project as it is proposed.

### Project Details:

NMSLO Lease Number (if available):

Cultural Resources Consultant: Beaver Creek Archaeology

Project Proponent (Applicant): Ensolum on behalf of BTA Oil Producers

Project Title/Description: BTA Oil Producers' Gem 4, 5, 7, 10 Battery, 8705 JV-P Remediation

### Project Location:

County(ies): Lea

PLSS/Section/Township/Range: T20S R33E S2

---

### For NMSLO Agency Use Only:

NMSLO Lease Number:

Acknowledgment-Only: ☐

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

---

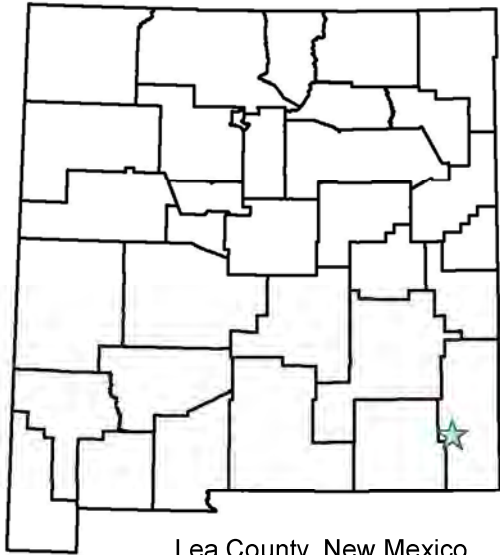
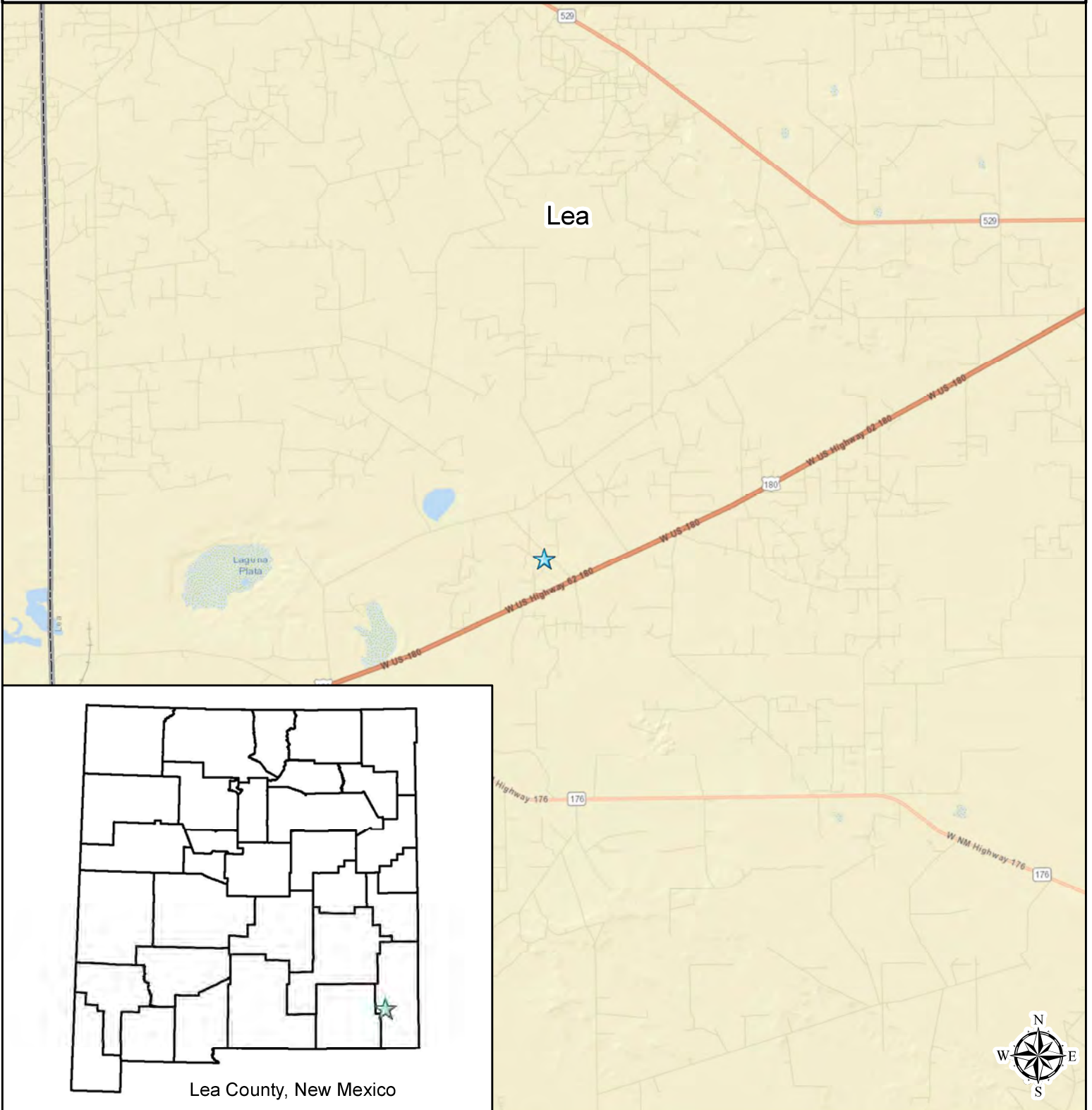
No person may alter the wording of the questions or layout of the cover sheet. The completion of this cover sheet by itself does not authorize anyone to engage in new surface disturbing activity before the review and approvals required by the Cultural Properties Protections Rule.

Form Revised 12 22



# Beaver Creek ARCHAEOLOGY

Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Ensolum, LLC  
T20S R33E Sec. 2  
Laguna Gatuna(1984) Quad. Map  
Upper Pecos-Black Drainage  
Lea County, New Mexico



Lea County, New Mexico

## Legend



Project Location



Base Map: USGS 7.5'  
Scale: 1:180,000  
UTM NAD83 Zone 13





# Beaver Creek ARCHAEOLOGY

Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Ensolum, LLC  
T20S R33E Sec. 2  
Laguna Gatuna(1984) Quad. Map  
Upper Pecos-Black Drainage  
Lea County, New Mexico

ESRI 2014



ESRI 2023




Google 2009



Google 2012



## Legend

 Workspace Limits (0.25 Acres)






**Beaver Creek**  
**ARCHAEOLOGY**

REDACTED

Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Ensolum, LLC  
T20S R33E Sec. 2  
Laguna Gatuna(1984) Quad. Map  
Upper Pecos-Black Drainage  
Lea County, New Mexico



## Legend

 Workspace Limits (0.25 Acres)

0 200 400 800 1,200 1,600 Meters  
0 0.125 0.25 0.5 0.75 1 Miles

Base Map: USGS 7.5'  
Scale: 1:24,000  
UTM NAD83 Zone 13



## APPENDIX C

### Photographic Log

---



**Photographic Log**

BTA Oil Producers, LLC  
Gem 4, 5, 7, 10 Battery, 8705 JV-P  
Incident Number nCH1903263128



Photograph: 1 Date: 12/7/2018  
Description: Release footprint, overspray visible to south.  
View: South



Photograph: 2 Date: 2/12/2019  
Description: Pasture and tank battery during Trinity delineation.  
View: North



Photograph: 3 Date: 8/10/2023  
Description: Delineation activities near active production equipment.  
View: East



Photograph: 4 Date: 10/20/2023  
Description: Final excavation extent  
View: Northeast

**Photographic Log**

BTA Oil Producers, LLC

Gem 4, 5, 7, 10 Battery, 8705 JV-P

Incident Number nCH1903263128



Photograph: 5  
Description: Backfill activities  
View: South

Date: 9/26/2024



Photograph: 6  
Description: Backfill activities  
View: Southwest

Date: 9/26/2024





## APPENDIX D

### Lithologic Soil Sampling Logs

---



								Sample Name: BH01		Date: 8/10/2023	
								Site Name: Gem 4,5,7,10 Battery			
								Incident Number: nCH1903263128			
								Job Number: 03C2012041			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: Peter Van Patten		Method: Backhoe	
Coordinates: 32.595768,-103.636505								Hole Diameter:		Total Depth: 16'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	250	0		SS05	0.5	0.5	CHHE	CHHE; pad caliche			
D	5,200	0	N			1	SP-SM	Sand: brown, light brown, fine grain, poorly graded, some tan caliche			
D	1,200	0	N			2	SP-SM	SAA (same as above)			
D	1,300	0	N			3	SP-SM	SAA, increasing caliche			
D	1,200	0	N	BH01D	4	4	CHHE	Caliche: off white, light tan, hard continuous layer, trace to some brown sand			
D	2,700	0	N			5	CHHE	Caliche: light tan, tan, granular, some sand			
D	2,300	0	N			6	CHHE	SAA			
D	2,000	0	N			7	CHHE	SAA			
D	1,900	0	N			8	CHHE	SAA			
						9					
						10					
D	1,600	0	N	BH01K	11	11	CHHE	SAA			
						12					
						13					
D	1,700	0	N			14	CHHE	SAA			
						15					
D	1,300	0	N	BH01P	16	16	CHHE	SAA			

								Sample Name: BH04		Date: 8/10/2023	
								Site Name: Gem 4,5,7,10 Battery			
								Incident Number: nCH1903263128			
								Job Number: 03C2012041			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: Cole Burton		Method: Backhoe	
Coordinates: 32.596042, -103.636588								Hole Diameter: 3'		Total Depth: 12	
Comments: Field screening conducted with Titration MOHR method and PID for chloride and vapor, respectively. Chloride test performed with 1:1 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D	1,000		N	BH04F	1	1	CCHE	Caliche: Light brown, medium grade			
M	700		N		2	2	SP-SM	Sand: red, medium grade			
M	600		N		3	3	SP-SM	Sand: red, medium grade			
M	800		N		4	4	SP-SM	Sand: red, medium grade, some grey clay			
D	1,200		N		5	5	CCHE	Caliche: Light brown, medium grade, grey clay			
D	800		N		6	6	CCHE	SAA			
D	4,900		N		7	7	CCHE	SAA			
D	2,500		N		8	8	CCHE	SAA			
D	3,500		N		9	9	CCHE	SAA			
D	2,500		N		10	10	CCHE	SAA			
D	4,000		N	11	11	CCHE	SAA				
D	2,500		N	BH04L	12	12	CCHE	SAA			



## APPENDIX E

### Laboratory Analytical Reports & Chain-of-Custody Documentation

---



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

August 17, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GEM 4,5,7,10 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 08/11/23 11:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: FS 01 4' (H234345-01)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06	
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616	
Total BTX	<0.300	0.300	08/15/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1300	16.0	08/14/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	19.7	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	12.5	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 81.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.0 % 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.

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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 01 0.5' (H234345-02)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06		
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484		
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232		
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616		
Total BTEx	<0.300	0.300	08/15/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	08/14/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	10.4	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 96.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 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.

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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 02 0.5' (H234345-03)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06		
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484		
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232		
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616		
Total BTEX	<0.300	0.300	08/15/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	08/14/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 86.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.8 % 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.

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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 01 K 11' (H234345-04)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06		
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484		
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232		
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616		
Total BTEx	<0.300	0.300	08/15/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2000	16.0	08/14/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 81.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.1 % 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.

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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 01 P 16' (H234345-05)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06		
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484		
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232		
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616		
Total BTEx	<0.300	0.300	08/15/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1800	16.0	08/14/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 85.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.9 % 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.

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: 08/11/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/10/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 04 4' (H234345-06)**

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	08/15/2023	ND	2.00	99.8	2.00	1.06		
Toluene*	<0.050	0.050	08/15/2023	ND	1.88	93.8	2.00	0.484		
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.85	92.6	2.00	0.232		
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.40	90.0	6.00	0.616		
Total BTEx	<0.300	0.300	08/15/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	960	16.0	08/14/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2023	ND	169	84.6	200	0.732	
DRO >C10-C28*	<10.0	10.0	08/14/2023	ND	172	86.0	200	0.0901	
EXT DRO >C28-C36	<10.0	10.0	08/14/2023	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 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.

Celey D. Keene, Lab Director/Quality Manager





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

Notes and Definitions

- QR-03      The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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

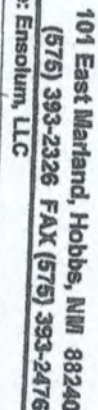
Cardinal Laboratories

\*=Accredited Analyte

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.

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**

Page 9 of 9



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

---

August 17, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GEM 4,5,7,10 BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 08/14/23 11:02.

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 fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SW 01 4' (H234367-01)**

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	08/16/2023	ND	2.07	103	2.00	3.26	
Toluene*	<0.050	0.050	08/16/2023	ND	2.10	105	2.00	2.73	
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	2.07	104	2.00	3.09	
Total Xylenes*	<0.150	0.150	08/16/2023	ND	6.44	107	6.00	2.46	
Total BTEX	<0.300	0.300	08/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 86.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	08/15/2023	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	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	<10.0	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 82.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.7 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 04F 6' (H234367-02)**

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	08/16/2023	ND	2.07	103	2.00	3.26		
Toluene*	<0.050	0.050	08/16/2023	ND	2.10	105	2.00	2.73		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	2.07	104	2.00	3.09		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	6.44	107	6.00	2.46		
Total BTEX	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1040	16.0	08/15/2023	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	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	<10.0	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 75.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.5 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 04L 12' (H234367-03)**

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	08/16/2023	ND	2.07	103	2.00	3.26		
Toluene*	<0.050	0.050	08/16/2023	ND	2.10	105	2.00	2.73		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	2.07	104	2.00	3.09		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	6.44	107	6.00	2.46		
Total BTEx	<0.300	0.300	08/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	08/15/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	<10.0	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 77.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.7 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 05 0.5' (H234367-04)**

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	08/16/2023	ND	2.07	103	2.00	3.26		
Toluene*	<0.050	0.050	08/16/2023	ND	2.10	105	2.00	2.73		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	2.07	104	2.00	3.09		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	6.44	107	6.00	2.46		
Total BTEX	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	08/15/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25		
DRO >C10-C28*	3820	10.0	08/15/2023	ND	152	76.1	200	1.59		
EXT DRO >C28-C36	1260	10.0	08/15/2023	ND						

Surrogate: 1-Chlorooctane 86.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 459 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 06 0.5' (H234367-05)**

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	08/16/2023	ND	2.07	103	2.00	3.26		
Toluene*	<0.050	0.050	08/16/2023	ND	2.10	105	2.00	2.73		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	2.07	104	2.00	3.09		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	6.44	107	6.00	2.46		
Total BTX	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	08/15/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	235	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	239	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 80.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.2 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 07 0.5' (H234367-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2023	ND	2.04	102	2.00	2.21	
Toluene*	<0.050	0.050	08/15/2023	ND	1.94	96.9	2.00	1.18	
Ethylbenzene*	<0.050	0.050	08/15/2023	ND	1.95	97.6	2.00	0.263	
Total Xylenes*	<0.150	0.150	08/15/2023	ND	5.87	97.8	6.00	1.04	
Total BTX	<0.300	0.300	08/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	304	16.0	08/15/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	19.1	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	18.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 79.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.8 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 03C 0.5' (H234367-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/16/2023	ND	2.04	102	2.00	2.21		
Toluene*	<0.050	0.050	08/16/2023	ND	1.94	96.9	2.00	1.18		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	1.95	97.6	2.00	0.263		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	5.87	97.8	6.00	1.04		
Total BTEx	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	08/15/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	<10.0	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 80.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.5 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SS 04C 0.5' (H234367-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/16/2023	ND	2.04	102	2.00	2.21		
Toluene*	<0.050	0.050	08/16/2023	ND	1.94	96.9	2.00	1.18		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	1.95	97.6	2.00	0.263		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	5.87	97.8	6.00	1.04		
Total BTEx	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	08/15/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	267	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	257	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 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.

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: 08/14/2023  
Reported: 08/17/2023  
Project Name: GEM 4,5,7,10 BATTERY  
Project Number: 03C2012041  
Project Location: BTA (32.59584,-103.63667)

Sampling Date: 08/11/2023  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: BH 02E 5.5' (H234367-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/16/2023	ND	2.04	102	2.00	2.21		
Toluene*	<0.050	0.050	08/16/2023	ND	1.94	96.9	2.00	1.18		
Ethylbenzene*	<0.050	0.050	08/16/2023	ND	1.95	97.6	2.00	0.263		
Total Xylenes*	<0.150	0.150	08/16/2023	ND	5.87	97.8	6.00	1.04		
Total BTEX	<0.300	0.300	08/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6480	16.0	08/15/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2023	ND	166	82.9	200	2.25	
DRO >C10-C28*	<10.0	10.0	08/15/2023	ND	152	76.1	200	1.59	
EXT DRO >C28-C36	<10.0	10.0	08/15/2023	ND					

Surrogate: 1-Chlorooctane 86.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 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.

Celey D. Keene, Lab Director/Quality Manager



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

### Notes and Definitions

- S-04            The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND             Analyte NOT DETECTED at or above the reporting limit
- RPD            Relative Percent Difference
- \*\*              Samples not received at proper temperature of 6°C or below.
- \*\*\*             Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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.

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

Company Name: Ensolum, LLC

Project Manager: Hadlie Green

Address: 3122 National Parks Hwy

City: Carlsbad

State: NM Zip: 88220

Phone #: 432-557-8895

Fax #:

Project #: 03C2012041

Project Owner:

Project Name: Gem 4, 5, 7, 10 Battery

Project Location: 32.59584, -103.63667

Sampler Name:

Cole Burton, Sarah Welvang

P.O. #:

Company: BTA Oil

Attn: Kevin Jones

Address: 104 S Pecos St

City: Midland

State: Texas Zip: 79701

Phone #: 432-312-2203

Fax #:

BILL TO

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	TPH	BTEX	Chlorides
H234367	SW01	4'			GROUNDWATER			8-11-23	9:50	X	X	X
	BH04F	6'			WASTEWATER				10:15	X	X	X
	BH04L	12'			SOIL				12:15	X	X	X
	SS05	0.5'			OIL				12:22	X	X	X
	SS06	0.5'			SLUDGE				12:03	X	X	X
	SS07	0.5'			OTHER:				11:12	X	X	X
	SS03C	0.5'			ACID/BASE:				12:27	X	X	X
	SS04C	0.5'			ICE / COOL				12:53	X	X	X
	BH02F	5.5'			OTHER:				12:41	X	X	X

PLEASE NOTE: Liability and Damages: Cardinal's liability and claims exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the service. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable analysis or acceptance of the results of the analysis. Cardinal's liability shall be limited to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Relinquished By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Received By:

Date: 8/14/23

Time: 11:02am

Delivered By: (Circle One)

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

Yes

No

Checked By: (Initials)

Turnaround Time:

Standard

Rush

Bacteria (only)

Cool Intact

Yes

No

Sample Condition

Observed Temp. °C

Corrected Temp. °C

Thermometer ID

Correction Factor

8/14/23

8/14/23

8/14/23

8/14/23

8/14/23

8/14/23

8/14/23

8/14/23

8/14/23

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



## APPENDIX F

### NMOCD Correspondence

---



**From:** [Kelton Beaird](#)  
**To:** [Tacoma Morrissey](#); [Hadlie Green](#)  
**Subject:** FW: The Oil Conservation Division (OCD) has approved the application, Application ID: 225743  
**Date:** Monday, July 10, 2023 8:51:19 AM

---

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

**Kelton Beaird**  
**Environmental Manager**  
**BTA Oil Producers**  
104 S. Pecos  
Midland, TX 79701  
432-312-2203

---

**From:** Nathan Sirgo <[nsirgo@btaoil.com](mailto:nsirgo@btaoil.com)>  
**Sent:** Friday, July 7, 2023 5:33 PM  
**To:** Kelton Beaird <[KBeaird@btaoil.com](mailto:KBeaird@btaoil.com)>  
**Subject:** Fwd: The Oil Conservation Division (OCD) has approved the application, Application ID: 225743

**Nathan Sirgo**  
BTA Oil Producers  
(432) 682-3753

Begin forwarded message:

**From:** [OCDOnline@state.nm.us](mailto:OCDOnline@state.nm.us)  
**Date:** July 7, 2023 at 4:02:55 PM CDT  
**To:** Nathan Sirgo <[nsirgo@btaoil.com](mailto:nsirgo@btaoil.com)>  
**Subject:** The Oil Conservation Division (OCD) has approved the application, Application ID: 225743

\*\*\*\*\* EXTERNAL EMAIL - Please use caution and **DO NOT** open attachments or click links from unknown or unexpected emails. \*\*\*\*\*

---

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

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nCH1903263128, with the following conditions:

- **The proposed delineation plan is approved with the following conditions:**  
Please make sure the floor confirmation samples are delineated/excavated to meet closure criteria standards for proven depth to water determination. Sidewall samples should be delineated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release.
- **The proposed excavation activities are approved with the following conditions:** Regarding the proposed installation of a liner at SP5 and SP8, operators may request a variance for any requirement of 19.15.29 NMAC. The variance request must include a detailed statement explaining the need for a variance and a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health, and the environment. Before a request for Variance can be considered the release must be fully delineated.
- **A revised Remediation/Closure report should be submitted no later than 10/05/2023**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,  
Jocelyn Harimon  
Environmental Specialist  
575-748-1283  
[Jocelyn.Harimon@emnrd.nm.gov](mailto:Jocelyn.Harimon@emnrd.nm.gov)

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

**From:** [Wells, Shelly, EMNRD](#)  
**To:** [Hadlie Green](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Maxwell, Ashley, EMNRD](#); [Hamlet, Robert, EMNRD](#); [Hall, Brittany, EMNRD](#); [Harimon, Jocelyn, EMNRD](#)  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 08/07/2023  
**Date:** Thursday, August 3, 2023 2:47:10 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

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

Hi Hadlie,

Notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

Thank you,

Shelly

[Shelly Wells](#) \* Environmental Specialist-Advanced  
Administrative Permitting Program  
EMNRD-Oil Conservation Division  
1220 S. St. Francis Drive | Santa Fe, NM 87505  
(505)469-7520 | [Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>

---

**From:** Hadlie Green <[hgreen@ensolum.com](mailto:hgreen@ensolum.com)>  
**Sent:** Thursday, August 3, 2023 1:36 PM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>  
**Cc:** Kelton Beaird <[KBeaird@btaoil.com](mailto:KBeaird@btaoil.com)>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 08/07/2023

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 August 7, 2023.

- Mesa B #2 SWD / NOY1826826475
  - Sampling Date: 8/7-8/2023 @ 9:00 AM MST

- Mesa #2H Tank Battery / NRM2026945362
  - Sampling Date: 8/8/2023 @ 9:00 AM MST
- Vaca Draw 9418 JV-P 001 / nCH1835540209
  - Sampling Date: 8/10-11/2023 @ 9:00 AM MST
- Gem 4, 5, 7, 10 Battery, 8705 JV-P / NCH1903263128
  - Sampling Date: 8/10-11/2023 @ 9:00 AM MST
- Mesa 8105 JVP #006H / nOY1814228433
  - Sampling Date: 8/11/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

**Ensolum, LLC**



**From:** [Wells, Shelly, EMNRD](#)  
**To:** [Hadlie Green](#)  
**Cc:** [Bratcher, Michael, EMNRD](#); [Harimon, Jocelyn, EMNRD](#); [Maxwell, Ashley, EMNRD](#)  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 08/14/2023  
**Date:** Thursday, August 10, 2023 3:58:32 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)

---

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

Good afternoon Hadlie,

Notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

Thank you,

Shelly

[Shelly Wells](#) \* Environmental Specialist-Advanced  
Environmental Bureau  
EMNRD-Oil Conservation Division  
1220 S. St. Francis Drive | Santa Fe, NM 87505  
(505)469-7520 | [Shelly.Wells@emnrd.nm.gov](mailto:Shelly.Wells@emnrd.nm.gov)  
<http://www.emnrd.state.nm.us/OCD/>

---

**From:** Hadlie Green <[hgreen@ensolum.com](mailto:hgreen@ensolum.com)>  
**Sent:** Thursday, August 10, 2023 2:26 PM  
**To:** Enviro, OCD, EMNRD <[OCD.Enviro@emnrd.nm.gov](mailto:OCD.Enviro@emnrd.nm.gov)>  
**Cc:** Kelton Beaird <[KBeaird@btaoil.com](mailto:KBeaird@btaoil.com)>; Peter Van Patten <[pvanpatten@ensolum.com](mailto:pvanpatten@ensolum.com)>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 08/14/2023

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 August 14, 2023.

- Gem 4, 5, 7, 10 Battery, 8705 JV-P / NCH1903263128
  - Sampling Date: 8/14/2023 @ 9:00 AM MST



- Rojo AE 7811 JV-P Fed 001H / nCH1836251271
  - Sampling Date: 8/14-18/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

**Ensolum, LLC**



**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**

QUESTIONS  
  
Action 390502

QUESTIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	390502
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

<b>Prerequisites</b>	
Incident ID (n#)	nCH1903263128
Incident Name	NCH1903263128 GEM 4, 5, 7, 10 BATTERY, 8705 JV-P @ 30-025-31209
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Well	[30-025-31209] GEM 8705 JV-P #004

<b>Location of Release Source</b>	
Please answer all the questions in this group.	
Site Name	GEM 4, 5, 7, 10 BATTERY, 8705 JV-P
Date Release Discovered	12/07/2018
Surface Owner	State

<b>Incident Details</b>	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

<b>Nature and Volume of Release</b>	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Flow Line - Injection   Produced Water   Released: 6 BBL   Recovered: 1 BBL   Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

**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**

QUESTIONS, Page 2

Action 390502

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	390502
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS**

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	No
Reasons why this would be considered a submission for a notification of a major release	Unavailable.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

**Initial Response**

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

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: BTA ENSOLUM Title: Environmental Manager Email: rramos@btaoil.com Date: 10/07/2024
--	---

**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**

QUESTIONS, Page 3

Action 390502

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	390502
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

**QUESTIONS****Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride	(EPA 300.0 or SM4500 Cl B)	6480
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	524
GRO+DRO	(EPA SW-846 Method 8015M)	267
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	08/21/2019
On what date will (or did) the final sampling or liner inspection occur	08/11/2023
On what date will (or was) the remediation complete(d)	08/11/2023
What is the estimated surface area (in square feet) that will be reclaimed	200
What is the estimated volume (in cubic yards) that will be reclaimed	30
What is the estimated surface area (in square feet) that will be remediated	200
What is the estimated volume (in cubic yards) that will be remediated	30

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

**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**

QUESTIONS, Page 4  
  
Action 390502

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	390502
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Remediation Plan (continued)</b>	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
<b>This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:</b>	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
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.	
I hereby agree and sign off to the above statement	Name: BTA ENSOLUM Title: Environmental Manager Email: rramos@btaoil.com Date: 10/07/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	



**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**

QUESTIONS, Page 5  
  
Action 390502

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 390502
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

<b>Deferral Requests Only</b>	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

**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**

QUESTIONS, Page 6

Action 390502

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:	260297
	Action Number:	390502
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	{Unavailable.}

**Remediation Closure Request**

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	200
What was the total volume (cubic yards) remediated	30
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	200
What was the total volume (in cubic yards) reclaimed	30
Summarize any additional remediation activities not included by answers (above)	Excavation of soil has mitigated impacts exceeding the Closure Criteria at the Site. Waste containing soil does exist at the Site on pad and will be removed during final abandonment or major reconstruction of the pad, whichever occurs first. Based on the delineation soil sample analytical results, approximately 300 cubic yards of soil exceeding the reclamation requirement in the top 4 feet on pad will be left in place. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nCH1903263128.

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: BTA ENSOLUM Title: Environmental Manager Email: rramos@btaoil.com Date: 10/07/2024
--	---

**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

QUESTIONS, Page 7  
  
Action 390502

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	390502
Action Type:	
[C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

**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 390502

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID:
	260297
	Action Number:
	390502
Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)	

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation closure approved.	10/8/2024
amaxwell	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	10/8/2024
amaxwell	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	10/8/2024