



September 20, 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: Reclamation Report  
Chiso 14 State Jet Pump and Excavation  
Incident Number nAPP2205837214  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared the following *Reclamation Report* for the Chiso 14 State Jet Pump (Site). This *Reclamation Report* documents the Site history and reclamation activities completed to date and proposes a vegetation monitoring plan.

**BACKGROUND**

The Site is located in Unit P, Section 14, Township 22 South, Range 34 East, in Lea County, New Mexico (32.38511°, -103.43594°) and is associated with oil and gas exploration and production operations on private land owned by Merchant Livestock Company.

On February 26, 2022, a plug on a jet pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an open excavation associated with a previous release. Approximately 165 barrels (bbls) of produced water were released. A vacuum truck was immediately dispatched to the Site and recovered approximately 70 bbls of produced water from the open excavation. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) through the online Notice of Release (NOR) portal on February 27, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 8, 2022. The release was assigned Incident Number nAPP2205837214.

Delineation and excavation of impacted soil was completed at the Site between June 8 and October 3, 2023. Based on the delineation and excavation soil sample analytical results, a *Closure Request* was submitted to the NMOCD on December 14, 2023. The NMOCD approved the *Closure Request* on February 29, 2024. Additional details regarding the release, Site Characterization, delineation and excavation activities, and soil sample analytical results can be referenced in the approved *Closure Request* included in Appendix A. Remediation of the release was completed in accordance with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC).

**RECLAMATION ACTIVITIES**

Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled, and the disturbed area was restored to its original condition. The excavation was

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backfilled with locally procured topsoil, consistent with the surrounding native soil type. Following backfill activities, the disturbed area was graded and contoured to match the surrounding topography. The excavation extent and reclamation area are shown on the attached Figure 1.

One representative 5-point composite sample (BF01) was collected from the topsoil backfill material. The backfill soil sample was transported under strict chain-of-custody procedures to Cardinal Laboratories in Carlsbad, New Mexico, for analysis of the following constituents of concern (COCs): benzene, toluene, ethylbenzene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 4500.

Laboratory analytical results for the backfill soil sample confirmed compliance with NMOCD requirements for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 milligrams per kilogram (mg/kg) and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized in the attached Table 1 and the complete laboratory analytical report is included as Appendix B.

The disturbed pasture area was seeded on August 6, 2024, with New Mexico State Land Office (NMSLO) seed mix SL for Sandy Loam sites at the rate specified in pounds of pure live seed (PLS) per acre below:

Species/Cultivar	PLS/Acre
Galleta grass	2.5
Little bluestem	2.5
Blue grama	2.0
Sideoats grama	2.0
Sand dropseed	1.0
Indian blanketflower	1.0
Parry penstemon	1.0
Blue flax	1.0
Desert globemallow	1.0
Fourwing saltbush	2.0
Common winterfat	1.0
Apache plume	0.75

The seed mix was doubled and distributed with a broadcast seed spreader and harrowed in. Photographs of the backfilled excavation and seeding of the reclaimed area are provided in Appendix A.

## VEGETATION MONITORING

The Site will be monitored for vegetation growth to verify reclamation activities were successful. Focus for this phase will be to prevent erosion and Site degradation, and to monitor for and treat invasive and noxious weed species.

- Erosion control of the newly reclaimed areas will include prompt revegetation and contouring of the surface to prevent concentrated surface water flow.
- Annual inspections will take place at the location to assess revegetation progress until vegetation is consistent with local natural vegetation density.
- If necessary, an additional application of the BLM seed mix will be applied.

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- Noxious and invasive weeds will be identified and treated by licensed contracted herbicide applicators or mechanically removed.

A *Revegetation Report* will be submitted to the NMOCD once vegetation growth in the reclaimed pasture area has uniform vegetative cover that reflects a life-form ratio of plus or minus 50 percent (%) of pre-disturbance levels and a total percent plant cover of at least 70% of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.29.13 D.(3).

**RECLAMATION APPROVAL REQUEST**

Based on the reclamation activities completed to date and proposed vegetation monitoring plan described above, BTA respectfully requests approval of this *Reclamation Report* and a status update to *Reclamation Report Approved, Pending submission of Re-Vegetation Report* for Incident nAPP2205837214.

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**



Garrett Green  
Project Environmental Scientist



Daniel R. Moir, PG (Licensed in WY & TX)  
Senior Managing Geologist

cc: Ray Ramos, BTA  
Nathan Sirgo, BTA  
Merchant Livestock Company

Appendices:

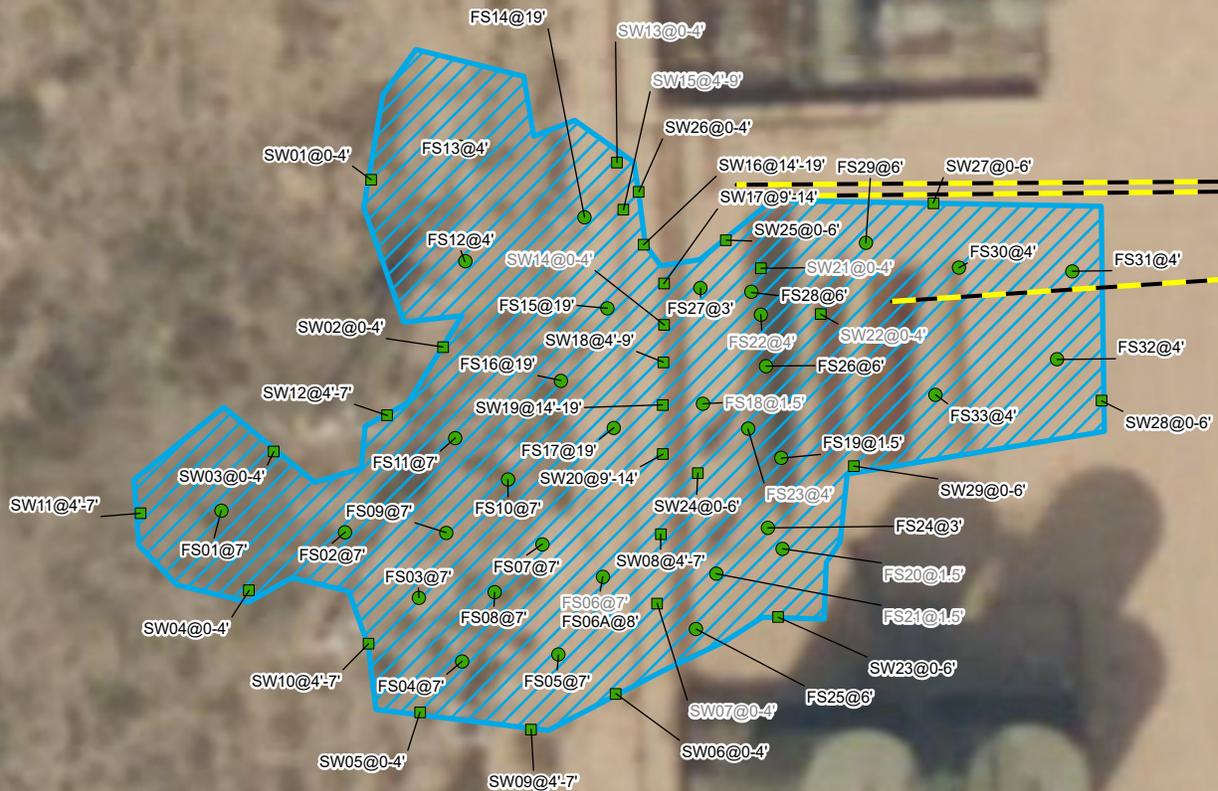
- Figure 1 Excavation Extent / Reclamation Area
- Table 1 Backfill Soil Sample Analytical Results
- Appendix A December 14, 2023 *Closure Request*
- Appendix B Photographic Log
- Appendix C Laboratory Analytical Report & Chain of Custody Documentation



FIGURES

### Legend

- Excavation Floor Soil Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Oil and Gas Utility Line
- ▨ Excavation Extent



Notes:  
 Sample ID @ Depth Below Ground Surface  
 Grey text represents samples that have been excavated



Source: Bing Maps



## Excavation Soil Sample Locations

XTO Energy, Inc  
 Chiso 14 State Jet Pump and Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

FIGURE  
 1



TABLES



**TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
Chiso 14 State Jet Pump Excavation  
BTA Oil Producers, LLC  
Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			10	50	NE	NE	NE	NE	100	600
<b>Backfill Soil Sample</b>										
BF01	06/10/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48

Notes:  
 bgs: below ground surface  
 mg/kg: milligrams per kilogram  
 NE: Not Established  
 NMOCD: New Mexico Oil Conservation Division  
 NMAC: New Mexico Administrative Code  
 BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes  
 GRO: Gasoline Range Organics  
 DRO: Diesel Range Organics  
 ORO: Oil Range Organics  
 TPH: Total Petroleum Hydrocarbon



APPENDIX A

December 14, 2023 *Closure Request*

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December 1, 2023

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
Chiso 14 State Jet Pump and Excavation  
Incident Number nAPP2205837214  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, delineation, excavation, and soil sampling activities performed at the Chiso 14 State Jet Pump (Site). The purpose of the Site activities was to address impacts to soil resulting from a release of produced water at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, BTA is submitting this *Closure Request* describing Site assessment, delineation, and excavation activities that have occurred and requesting closure for Incident Number nAPP2205837214.

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit P, Section 14, Township 22 South, Range 34 East, in Lea County, New Mexico (32.38511°, -103.43594°) and is associated with oil and gas exploration and production operations on private land owned by Merchant Livestock Company.

On February 26, 2022, a plug on a jet pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an open excavation associated with a previous release. Approximately 165 barrels (bbls) of produced water were released. A vacuum truck was immediately dispatched to the Site and recovered approximately 70 bbls of produced water from the open excavation. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) through the online Notice of Release (NOR) portal on February 27, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 8, 2022. The release was assigned Incident Number nAPP2205837214.

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

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg

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- Total Petroleum Hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

According to a *Remediation Workplan*, prepared by Tetra Tech, Inc. (Tetra Tech) and submitted to NMOCD on May 12, 2023, the depth of the open excavation affected by the February 2022 release ranged between 3 feet and 9 feet below ground surface (bgs). Following the February 2022 release, the excavation was extended to depths ranging from 3 feet to 19 feet bgs between February 28, 2022, and June 7, 2022. Following excavation activities, a 20-mil poly liner was installed within the open excavation at a depth of 19 feet bgs. Due to the presence of the jet pump, Tetra Tech proposed vertical and horizontal delineation of the soil around the jet pump and collection of new confirmation soil samples in the excavated area. The May 2023 *Remediation Workplan* was approved by NMOCD on June 13, 2023, and is included as Appendix A.

Between June 8 and July 24, 2023, Ensolum personnel were at the Site to oversee additional excavation, delineation, and confirmation sampling in accordance with Tetra Tech's approved *Remediation Workplan*. Excavation of impacted soil was completed to the maximum extent possible; however, residual TPH and chloride-impacted soil remained under and around production equipment, pipelines, and the jet pump. Approximately 662 cubic yards of soil were left in place due to the presence of the jet pump. During August 2023, the jet pump was removed and on September 11, 2023, BTA submitted a *Remediation Work Plan (Work Plan)* proposing additional vertical delineation, excavation of impacted soil near the jet pump, and final confirmation sampling. The *Work Plan* was reviewed and approved by NMOCD on November 17, 2023 and is included as Appendix B. What follows describes all delineation, soil sampling, and excavation activities completed at the Site in accordance with the approved *Work Plans*.

## CULTURAL RESOURCES SURVEYS

The excavation and liner installation were initiated prior to implementation of the Cultural Properties Protection Rule on December 1, 2022. The excavation occurred less than 30 feet from the edge of the well pad disturbance area and appears to be within the clearance buffer of the original siting. No additional cultural resource surveys were completed in connection with this release.

## EXCAVATION AND DELINEATION ACTIVITIES

Between June 8 and July 24, 2023, Ensolum personnel were at the Site to oversee additional excavation and soil sampling activities based on previous soil sample analytical results, field screening, and visible observations documented in Tetra Tech's *Remediation Workplan*. Excavation activities were performed utilizing a track hoe and transport vehicles. To direct excavation activities, soil was screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. During excavation activities, the poly liner that was installed at 19 feet bgs was removed and is no longer present in the excavation. The excavation was completed to depths ranging from 1.5 feet to 19 feet bgs. Photographic documentation of the excavation activities is included in Appendix C.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS23 were collected from the floor of the excavation at depths ranging from 1.5 feet to 19 feet bgs. Composite soil samples SW01 through SW22 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 19 feet bgs.

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

Laboratory analytical results for the excavation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria except for the following floor and sidewall soil samples:

- Floor Soil Samples: FS18 and FS20 through FS23
- Sidewall Soil Samples: SW07, SW13 through SW15, SW21, and SW22

Since all impacted soil could not be safely excavated at that time, areas around the jet pump and production equipment were fully delineated. Delineation soil samples H-1 through H-6 were collected outside of the release extent, at a depth of 0.5 feet bgs, to define the lateral extent of the release. Six soil borings (AH-1 through AH-6) were advanced around the jet pump to depths ranging from 1-foot to 6 feet bgs to define the vertical extent of impacted soil. Delineation soil samples were collected from the soil borings at depths ranging from 1-foot to 6 feet bgs. The delineation soil samples were field screened for VOCs and chloride. Field screening results and observations for the soil borings were logged on lithologic/soil sampling logs, which are included in Appendix D. The delineation soil sample locations are depicted on Figure 2.

Laboratory analytical results indicated all COC concentrations in lateral delineation soil samples H-1 through H-6 were compliant with the Site Closure Criteria, confirming the lateral extent of the release to the north, east, and south of the jet pump. The chloride concentration in vertical delineation soil samples AH-2 through AH-5 exceeded the Closure Criteria at depths ranging from 2 feet to 3.5 feet bgs; all terminal samples, collected at depths ranging from 3 feet to 6 feet bgs were compliant with the Closure Criteria. Laboratory analytical results for vertical delineation soil sample AH-6 indicated the concentration of TPH exceeded the Closure Criteria at 2 feet bgs. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix E.

## ADDITIONAL EXCAVATION

The excavation floor and sidewall soil samples that exceeded the Closure Criteria (FS18 and FS20 through FS23, SW07, SW13 through SW15, SW21, and SW22) were located within and around production equipment and pipelines on pad. Excavation of impacted soil was completed to the maximum extent practicable at the time without compromising the integrity of the equipment and/or pipelines as well as the safety of personnel onsite.

BTA subsequently moved the jet pump and associated production equipment to another location at the facility which allowed access to the impacted soil previously left in place. Ensolum personnel returned to the Site on October 2 and 3, 2023 to oversee excavation of the impacted soil in the previous location of the jet pump. Excavation soil samples FS18, FS20 through FS23, SW07, SW13 through SW15, SW21, SW22 and delineation soil samples AH-1, AH-2/AH-2B, AH-3/AH-3C, AH-4/AH-4A, AH5/AH-5B, and AH-6/AH-6A were removed during the excavation activities.

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewall of the final excavation extent. Confirmation soil samples FS24 through FS33 were collected from the floor of the excavation at depths ranging from 3 feet to 6 feet bgs. Confirmation soil samples SW23 through SW29 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 6 feet bgs. The excavation extent and excavation soil sample

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 Closure Request  
 Chiso 14 State Jet Pump and Excavation

locations are presented on Figure 3. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix E.

The final excavation extent measured approximately 5,800 square feet in areal extent. A total of approximately 1,700 cubic yards of impacted soil were removed during all excavation activities. The impacted soil was transported and properly disposed of at the R360 Environmental Solutions in Hobbs, New Mexico.

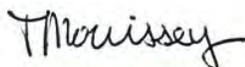
## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the February 26, 2022, release of produced water. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation is required. Portions of the release occurred off pad in the pasture. As such, the disturbed pasture area will be reclaimed following the Reclamation Plan in Appendix F.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. BTA believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2205837214. Notifications submitted to the NMOCD are included in Appendix G and the final Form C-141 is included in Appendix H.

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

Sincerely,  
**Ensolum, LLC**



Tacoma Morrissey, M.S.  
 Senior Geologist



Daniel R. Moir, PG  
 Senior Managing Geologist

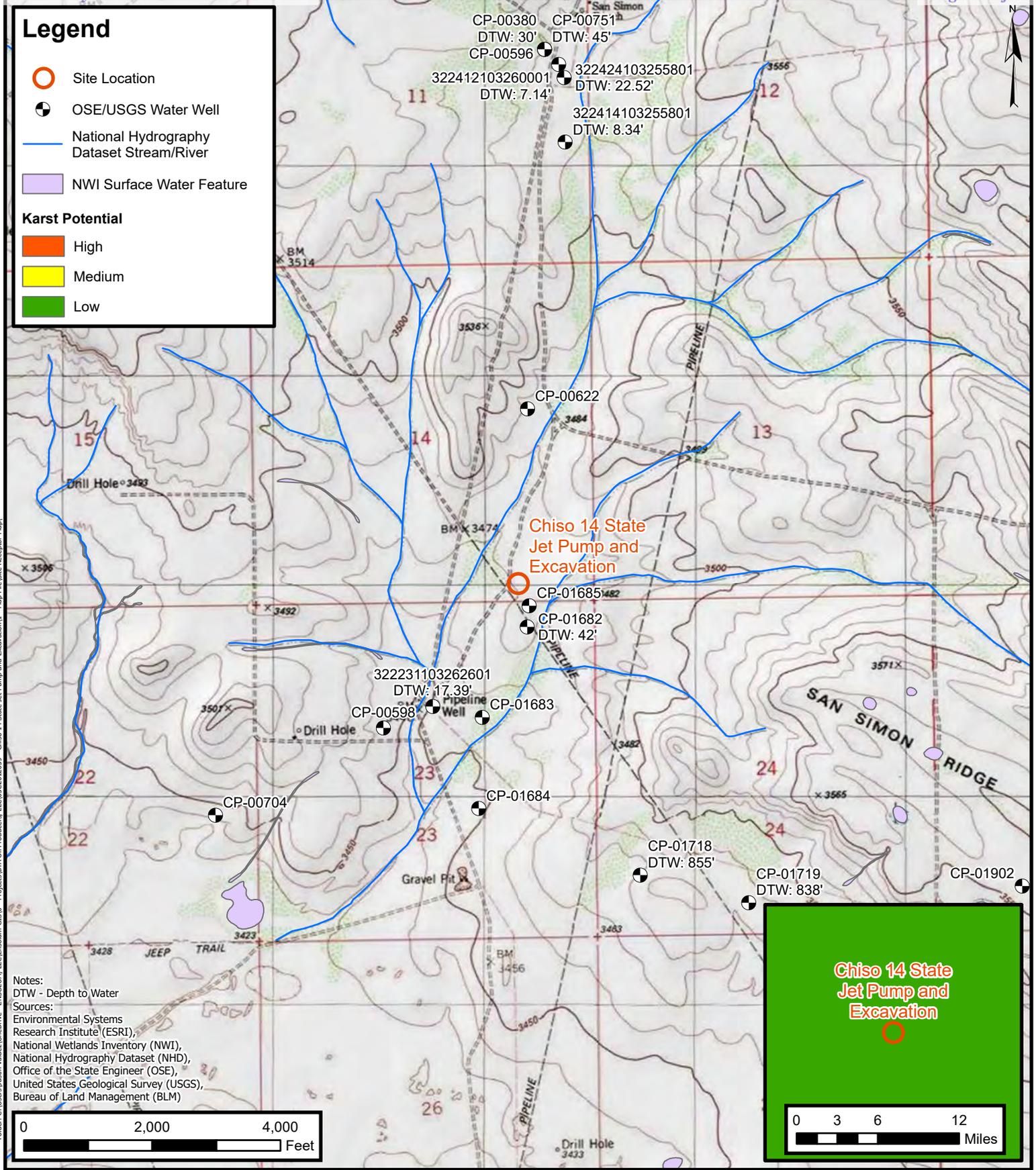
cc: Kelton Beard, BTA  
 Merchant Livestock Company

### 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	Tetra Tech, May 12, 2023, <i>Remediation Workplan</i>
Appendix B	September 11, 2023, <i>Remediation Work Plan</i>
Appendix C	Photographic Log
Appendix D	Lithologic/Soil Sampling Logs
Appendix E	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix F	Reclamation Plan
Appendix G	NMOCD Correspondence
Appendix H	Final C-141



Figures



Folder: C:\Users\Justin.Velez\OneDrive - ENSOLUM, LLC\Projects\BTA Oil Producers, LLC\0320202059 - Chiso 14 State Jet Pump and Excavation\1 - Map File\Site Receptor Map



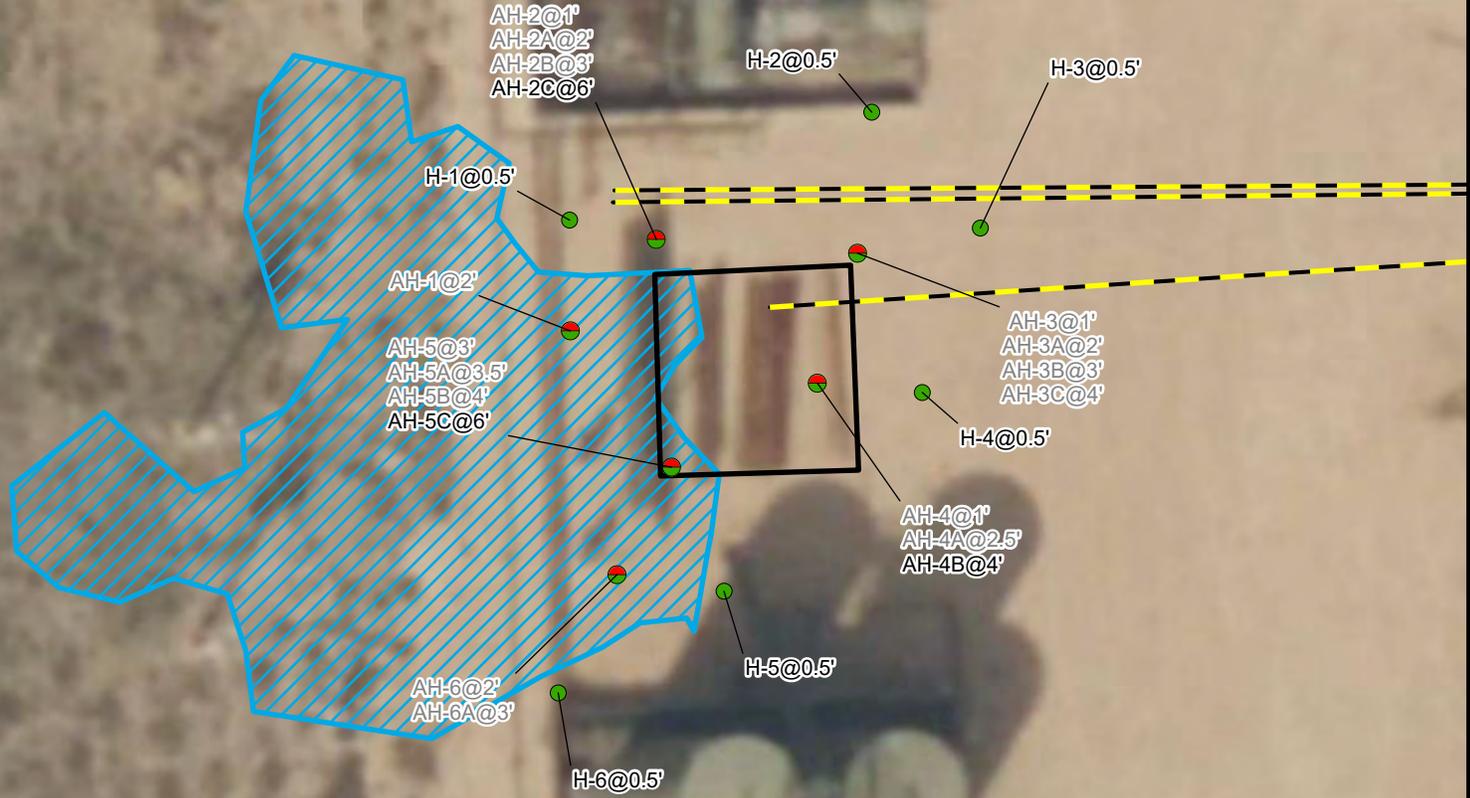
**Site Receptor Map**  
 BTA Oil Producers, LLC  
 Chiso 14 State Jet Pump and Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

**FIGURE**  
**1**

Document Path: C:\Users\Peter.Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structures\3 - Carlsbad\XTO Energy, Inc\032012059 - Chiso 14 State Jet Pump and Excavation\1 - Project\Chiso 14 State Jet Pump and Excavation.aprx

**Legend**

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Oil and Gas Utility Line
- Excavation Extent
- Jet Pump / Production Equipment



**Notes:**  
 Sample ID @ Depth Below Ground Surface  
 Grey text represents samples that have been excavated

Source: Bing Maps

# Delineation Soil Sample Locations

XTO Energy, Inc  
 Chiso 14 State Jet Pump and Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

**FIGURE**  
**2**







Table 1

Soil Sample Analytical Results

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**TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
Chiso 14 State Jet Pump and Excavation  
BTA Oil Producers, LLC  
Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<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>NE</b>	<b>100</b>	<b>600</b>
<b>Confirmation Soil Samples</b>										
FS01	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS02	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS03	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS04	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS05	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS06	06/13/2023	7	<0.050	<0.300	<10.0	860	204	860	1,064	32.0
FS06A	07/12/2023	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS07	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS08	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS09	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS10	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS11	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS12	06/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS13	06/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS14	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS15	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS16	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS17	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS18	06/13/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,400
FS19	06/13/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS20	06/13/2023	1.5	<0.050	<0.300	<10.0	359	97.0	359	456	400
FS21	06/13/2023	1.5	<0.050	<0.300	<10.0	25.6	<10.0	25.6	25.6	736
FS22	07/27/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,330
FS23	07/24/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,170
FS24	10/02/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS25	10/02/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS26	10/03/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
FS27	10/03/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Chiso 14 State Jet Pump and Excavation**  
**BTA Oil Producers, LLC**  
**Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
FS28	10/03/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS29	10/03/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
FS30	10/03/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS31	10/03/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS32	10/03/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS33	10/03/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SW01	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW03	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW04	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW05	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW06	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW07	06/12/2023	0-4	<0.050	<0.300	<10.0	476	38.6	476	215	1,340
SW08	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW09	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SW10	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW11	06/13/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW12	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW13	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,120
SW14	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,920
SW15	06/12/2023	4-9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	688
SW16	06/12/2023	14-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW17	06/12/2023	9-14	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW18	06/12/2023	4-9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW19	06/12/2023	14-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW20	06/12/2023	9-14	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Chiso 14 State Jet Pump and Excavation**  
**BTA Oil Producers, LLC**  
**Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<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>NE</b>	<b>100</b>	<b>600</b>
SW21	07/31/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,000
SW22	07/31/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	11,600
SW23	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW24	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW25	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW26	10/03/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW27	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW28	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW29	10/03/2023	0-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
<b>Delineation Soil Samples</b>										
AH-1	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
AH-2	07/06/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,600
AH-2A	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,440
AH-2B	09/14/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,400
AH-2C	09/14/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
AH-3	07/06/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,520
AH-3A	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,080
AH-3B	09/14/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,440
AH-3C	09/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
AH-4	07/06/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,840
AH-4A	07/06/2023	2-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,440
AH-4B	09/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
AH-5	07/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,130
AH-5A	07/06/2023	3-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,560
AH-5B	09/14/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
AH-5C	09/14/2023	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480



**TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
Chiso 14 State Jet Pump and Excavation  
BTA Oil Producers, LLC  
Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<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>NE</b>	<b>100</b>	<b>600</b>
AH-6	07/06/2023	2	<0.050	<0.300	<10.0	115	20.8	115	<b>136</b>	96.0
AH-6A	09/14/2023	3	<0.050	<0.300	<10.0	11.7	<10.0	11.7	11.7	592
H-1	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
H-2	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-3	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-4	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-5	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-6	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

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

### Tetra Tech Remediation Work Plan

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April 20, 2023

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

**RE: Remediation Workplan  
BTA Oil Producers  
Chiso 14 8711 #3 Jet Pump Release  
Lea County, New Mexico  
nAPP2205837214**

Oil Conservation Division:

Tetra Tech, Inc. (Tetra Tech) was contracted by BTA Oil Producers (BTA) to compile and prepare a closure report for remediation activities conducted by RXsoil and Alves Oilfield Solutions, Inc. following a produced water release that occurred at the Chiso 14 8711 #3, Section 14, Township 22 South, Range 34 East, Lea County, New Mexico (Site). The release site coordinates are 32.38511°, -103.43594°. The site location is shown on **Figures 1 and 2**.

## **Background**

According to the State of New Mexico C-141 Initial Report, a release at the Chiso 14 8711 #3 occurred after a plug on a jet pump manifold failed, resulting in approximately 165 barrels (bbls) of produced water to be released into an open excavation at the site. Approximately 70 bbls of produced water was recovered from the excavated area. The open excavation at the site was being conducted to investigate evidence of a suspected release that was discovered by the landowner. The jet pump release flowed onto the pad and the adjacent pasture west of the Site, impacting an area with a length of 60 feet and a maximum width of 80 feet. On February 26, 2022, the release was discovered and reported to the New Mexico Oil Conservation Division (NMOCD). The C-141 is included in **Appendix A**.

## Suspected Release

BTA's subcontractor, RXsoil conducted site assessment activities from in September through November of 2021 based on evidence of a suspected release at the site. A total of seven (7) soil borings (SP1-A, SP3-A, SP4-A, and SP1 through SP4) were installed to depths ranging from ground surface to 2 ft bgs. The investigatory delineation sample locations are shown on **Figure 3**. The samples were submitted to Cardinal Laboratories in Hobbs, New Mexico to be analyzed for TPH by method 8015 modified, BTEX by method 8021B, and Chloride by EPA Method 4500. The analytical results are summarized in **Table 1** and the analytical laboratory reports are included in **Appendix D**.



## Site Characterization

### Significant Water Features

According to the NFHL (National Flood Hazard Layer) Flood Data Application and the USGS (United States Geological Survey) National Water Information System Mapper, there are two intermittent water features located approximately 785 feet to the west and 650 feet to the east of the horizontal extent of the release. No significant watercourses were identified within 300 feet of the Site. There were no playas, lakebeds, sinkholes, springs, wetlands, subsurface mines, private domestic water wells, or floodplains located within the specified distances. Additionally, the site is located in a low karst area. The NFHL Map, USGS Mapper, and NMOSE data are shown in **Appendix B**.

### Significant Boundaries

According to Google Earth US Government City Boundaries and US School Districts, the lateral extents of the release were not within incorporated municipal boundaries, defined municipal fresh water well field, or a school district. Additionally, there were no occupied permanent residences, schools, hospitals, institutions, or churches located within the specified distances of the lateral extents of the release.

### Groundwater Review

Groundwater research was completed for the site through the USGS (United States Geological Survey) National Water Information System and New Mexico Office of the State Engineer (NMOSE) Water Rights Reporting System. Two Points of Diversion (POD) were identified within a 0.5-mile radius of the Site. CP-1682-POD1 South 2, an active well located approximately 0.13 miles south of the horizontal extent of the release. NMOSE records indicate the well was drilled to a total depth of 294 ft bgs on September 13, 2019, and groundwater was first encountered at 42 ft bgs. USGS well # 322231103262601 is located approximately 0.44 miles southwest of the Site. USGS records indicate the well was drilled to a total depth of 60 ft bgs on with a measured water depth of 17.39 ft bgs. POD records are presented in **Appendix B**.

POD ID	Distance from Site (Miles)	Date of Data	Resource of Information	Depth of Well	Depth to Water
CP-1682-POD1 South 2	0.13	09/13/2019	NMOSE	294'	42'
322231103262601	0.44	12/18/2015	USGS	60'	17.39'

## Regulatory

A risk-based evaluation was performed for the site following the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to



determine the Recommended Remedial Action Levels (RRALs) for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 milligrams per kilogram (mg/kg), 50 mg/kg for total BTEX, 100 mg/kg for total TPH and 600 mg/kg for Chlorides.

### Remediation Activities

Based on the results of the suspected release investigation activities, BTA's subcontractors, RXsoil and Alves Oilfield Solutions, LLC (Alves) mobilized to the site to begin remediation activities on February 23, 2022. On February 26, 2022, a release caused by a plug failure on a jet pump at the site, adjacent to the excavation, spilled produced water onto the pad and into the open excavation of the suspected release area. Approximately 165 bbls of produced water was released and 70 bbls were recovered from the excavation area. The release impacted area is shown on **Figure 4**.

Between the time of the initial excavation activities and the release from the jet pump into the excavation, the excavation was dug to depths ranging from 3 to 9 ft bgs. Five bottom samples were collected along the excavation bottom (B1 through B5) to delineate to vertical extent of impact. Sample points B2 and B5 reported concentrations below NMOCD limits by laboratory analysis. Sample point B4 was confirmed below NMOCD limits at 5 ft bgs. Sample points B1 and B3 were field screened and indicated chloride concentrations of 356 ppm and non-detect, respectively. Sample points B1 and B3 were not submitted for laboratory analysis before the jet pump release into the excavated area on top of the previously sampled excavation. RXsoil's field screening data is presented in **Appendix E**.

From February 28, 2022, through June 7, 2022, following the jet pump release into the excavated area, Alves and RXsoil continued remediation activities at the site. The areas of impact were excavated to a depth ranging from 3 ft bgs to 19 ft bgs. Field screening was conducted throughout the excavation process to determine the appropriate depth for confirmation sampling. It should be noted that no delineation or confirmation samples were submitted for laboratory analysis in the release footprint around the jet pump area due to safety concerns and the inability to maneuver equipment into the area. The confirmation sample locations area shown on **Figure 5**.

A total of seven (7) confirmation bottom hole samples (BS 1 through BS 6 and SP 2) were collected and a total of eleven (11) confirmation sidewall samples (SW 1 through SW 11) were collected by Alves on February 28, 2022, and June 7, 2022. Additionally, seven (7) confirmation samples (N Wall 2, Bottom, N Wall 1, N Bottom, S Wall, bottom #2 and W Wall) were collected at the Stie from March 8, 2022, through March 10, 2022. Unfortunately, mapping data and sample locations are not available for these sample points. The confirmation soil samples were submitted to the Cardinal Laboratory in Hobbs, New Mexico to be analyzed for TPH method 8015 modified, BTEX method 8021B, and Chloride by EPA Method 4500. The analytical results are summarized in **Table 2** and the analytical laboratory reports are included in **Appendix D**.

Referring to Table 2, all final confirmation samples indicated benzene, BTEX, TPH, and chloride concentrations were below the RRALs of 100 mg/kg of Total TPH, 10 mg/kg for Benzene, 50 mg/kg for Total BTEX and 600 mg/kg for chlorides in all confirmation samples.



A 20 ml liner was installed at 19 ft bgs into the east side of the excavation as an extra precautionary measure after confirmation sample SP 2 reported below NMOCD RRALs at 18 and 19 ft bgs. The liner area was subsequently backfilled to approximately 13 ft bgs. In the release area adjacent to the jet pump on the site, field screening was conducted which indicated elevated chloride concentrations in the top two feet bgs. Due to the equipment and power poles in this area, Alves was unable to excavate this area.

### Work Plan

Based on the C-141 (nAPP2205837214) and information provided by BTA, Tetra Tech performed site characterization and groundwater research to determine groundwater depth, proximity from significant water features, and proximity from specified populated entities to determine RRALs and assess the impacted area. Based on the OCD *Guidelines for Remediation of Leaks, Spills, and Releases*, updated August 14, 2018, according to the groundwater data found during research activities, the RRALs of 600 mg/kg for chlorides and 100 mg/kg for TPH will be followed for the site. The C-141 is included in **Appendix A**.

BTA proposes to vertically and horizontally delineate the area surrounding the jet pump at the Site and between the jet pump and open excavation area by installing twelve (12) auger holes within and on the perimeter of the release impacted area. Vertical auger holes (AH-1 through AH-6) will be installed to a depth of 4 ft bgs, or feasible utilizing a hand auger, and samples will be collected at each 1-foot interval for submission to the analytical laboratory. Horizontal auger holes (H-1 through H-6) will be installed to a depth of 1 ft bgs along the perimeter of the release footprint in an attempt to achieve horizontal delineation. A deferral may be requested in these areas due to the equipment present at the Site and the safety concerns associated with excavating in these areas, pending analytical results.

Due to insufficient data regarding the confirmation samples collected at the Site, BTA proposes to re-sample the open excavation at the Site by collecting nine (9) sidewall samples and nine (9) bottom samples. The confirmation samples will be collected as a 5-point composite representative of approximately every 500 sq ft to demonstrate that the excavated area has been properly remediated. The Excavated area ranges in depth from 3 ft bgs to 19 ft bgs and covers an area of approximately 3,350 sq ft. A 20-mil liner was installed to 19 ft bgs and will be removed for the re-sampling event. A workplan sample location map is presented on **Figure 6**.

BTA requests approval of this workplan as soon as possible due to the safety concerns associated with the open excavation and landowner concerns regarding closure of the Site.

Pending analytical results, additional excavation and sampling activities may be required at the Site. If you require any additional information or have any questions or comments, please contact us at (432) 682-4559.



Respectfully submitted,  
TETRA TECH

A handwritten signature in blue ink that reads 'John Faught'.

John Faught, G.I.T.  
Project Manager

A handwritten signature in blue ink that reads 'Clair Gonzales'.

Clair Gonzales, P.G.  
Senior Project Manager

### Figures

- Figure 1 - Site Overview Map
- Figure 2 - Topographic Map
- Figure 3 – Investigation Delineation Map
- Figure 4 – Release Footprint Map
- Figure 5 – Excavation Area and Confirmation Sample Location Map
- Figure 6 – Workplan Sample Location Map

### Tables

- Table 1 – Delineation Analytical Results
- Table 2 – Confirmation Analytical Results

### Appendices

- Appendix A – C-141
- Appendix B – Site Characterization
- Appendix C – Photographic Documentation
- Appendix D – Analytical Laboratory Reports
- Appendix E – RxSoil Screening Data



# Figures

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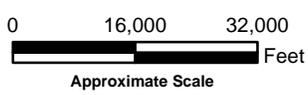
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**CHISO 148711 #3**



**LEGEND**  
▲ APPROXIMATE SITE LOCATION

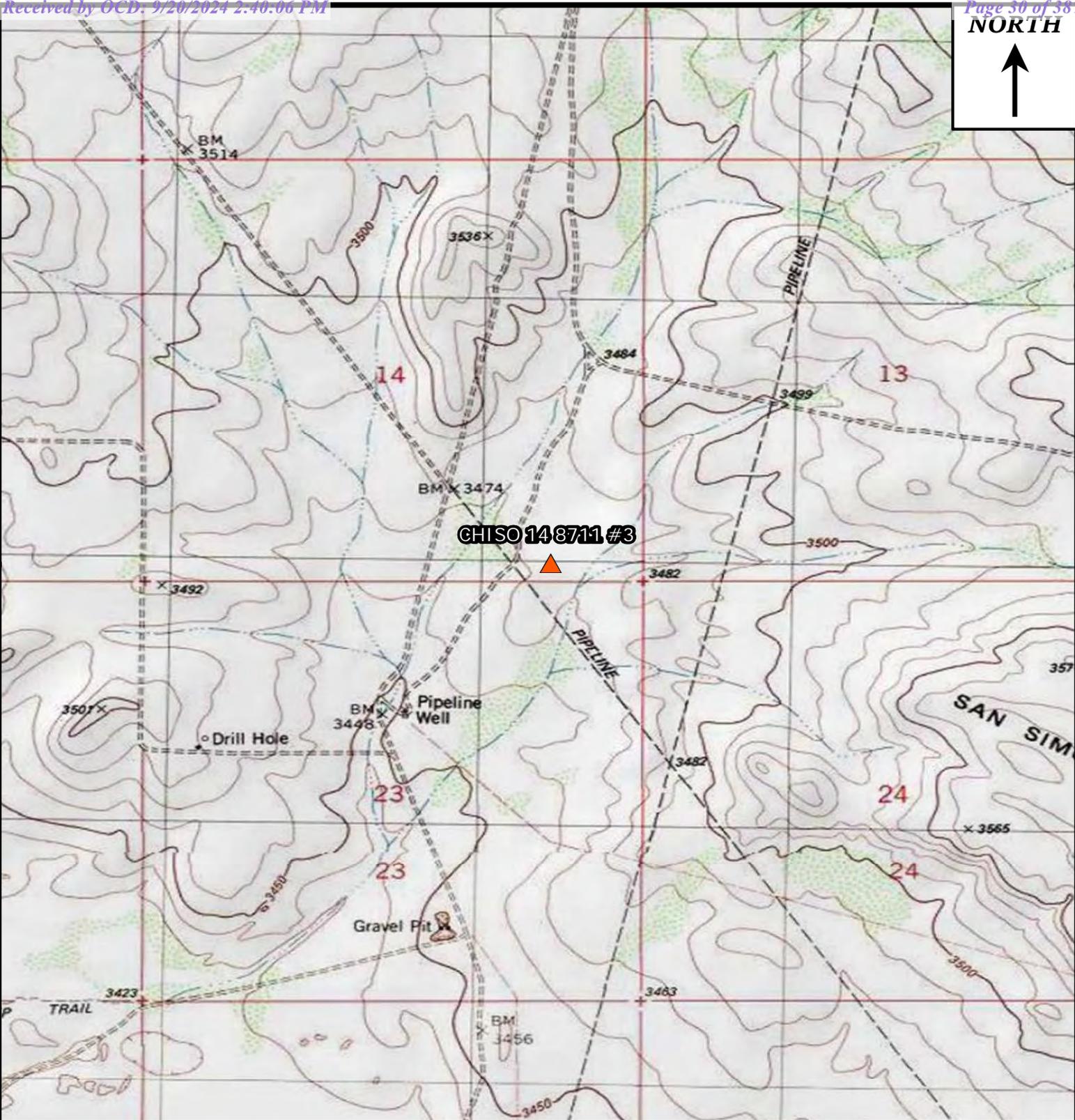


**FIGURE 1**  
**SITE FEATURE MAP**  
**CHISO 14 8711 #3**  
**LEA COUNTY, NEW MEXICO**  
**32.384929°, -103.435741°**

Project: 212C-MD-02063  
Date: 3/14/2023  
Name: Figure 1 - Chiso 14



**NORTH**

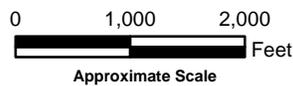


**LEGEND**

 APPROXIMATE SITE LOCATION



**FIGURE 2**  
**TOPOGRAPHIC MAP**  
**CHISO 14 8711 #3**  
**LEA COUNTY, NEW MEXICO**  
**32.384929°, -103.435741°**



Project: 212C-MD-02063

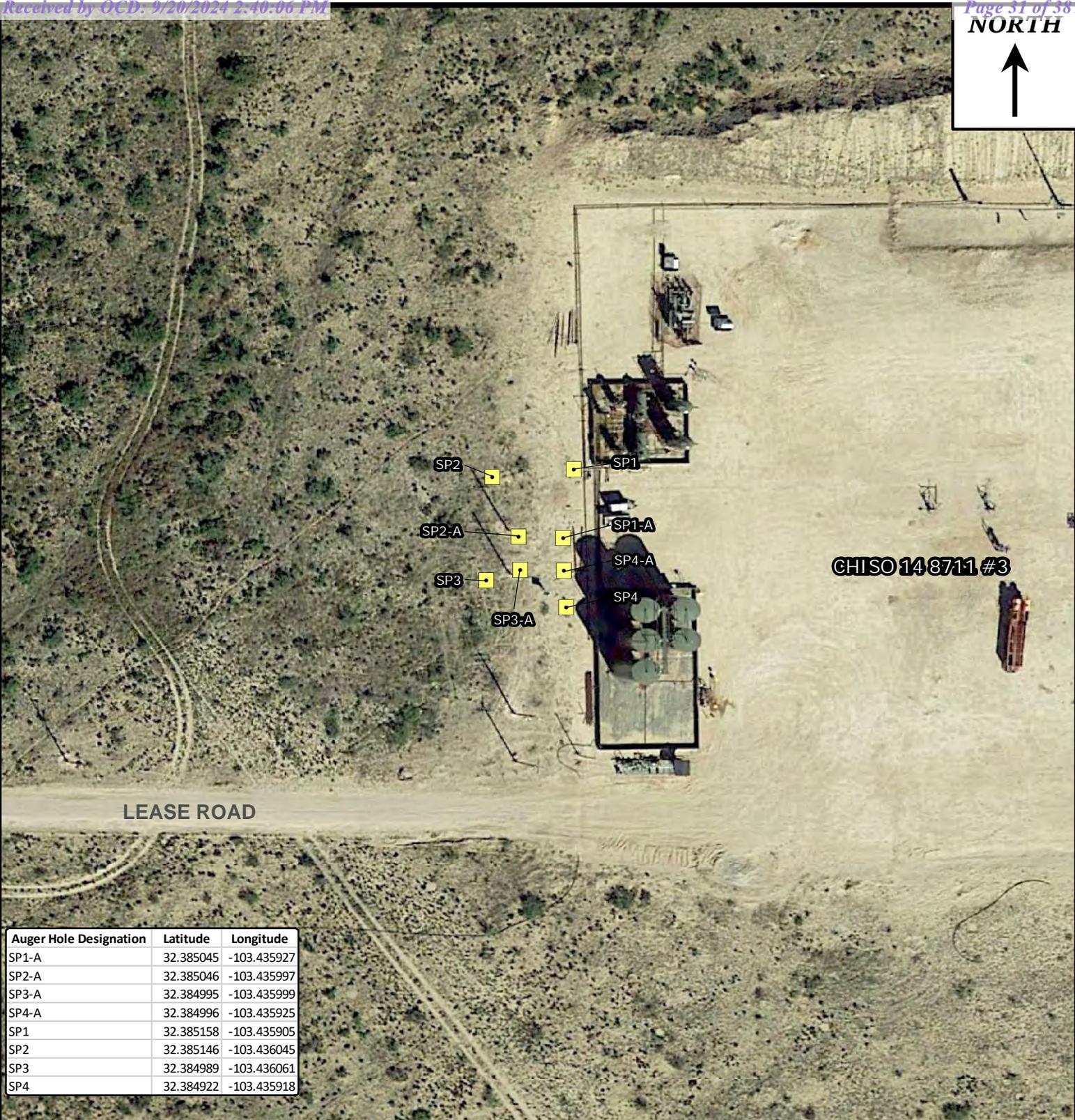
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Name: Figure 1 - Chiso 14



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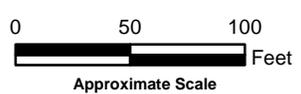


Auger Hole Designation	Latitude	Longitude
SP1-A	32.385045	-103.435927
SP2-A	32.385046	-103.435997
SP3-A	32.384995	-103.435999
SP4-A	32.384996	-103.435925
SP1	32.385158	-103.435905
SP2	32.385146	-103.436045
SP3	32.384989	-103.436061
SP4	32.384922	-103.435918

**LEGEND**  
 SAMPLE LOCATIONS



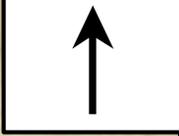
**FIGURE 3**  
 INVESTIGATION SAMPLE LOCATION MAP  
 CHISO 14 8711 #3  
 LEA COUNTY, NEW MEXICO  
 32.384929°, -103.435741°



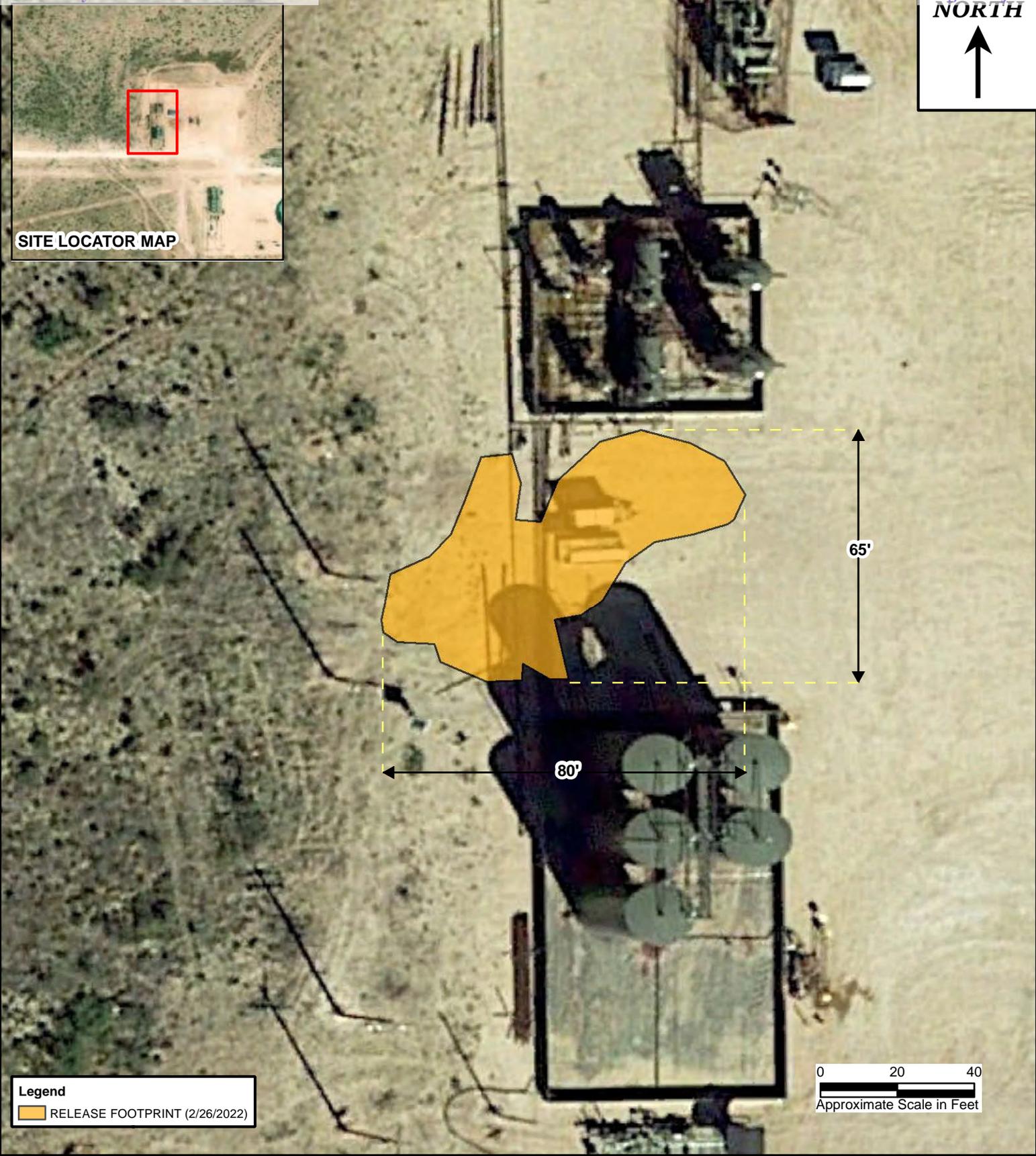
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 Date: 3/14/2023  
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**SITE LOCATOR MAP**



**Legend**  
RELEASE FOOTPRINT (2/26/2022)

0 20 40  
Approximate Scale in Feet

 **TETRA TECH**

www.tetrattech.com

901 West Wall Street, Suite 100  
Midland, Texas 79701  
Phone: (432) 682-4559  
Fax: (432) 682-3946

**BTA Oil Producers**

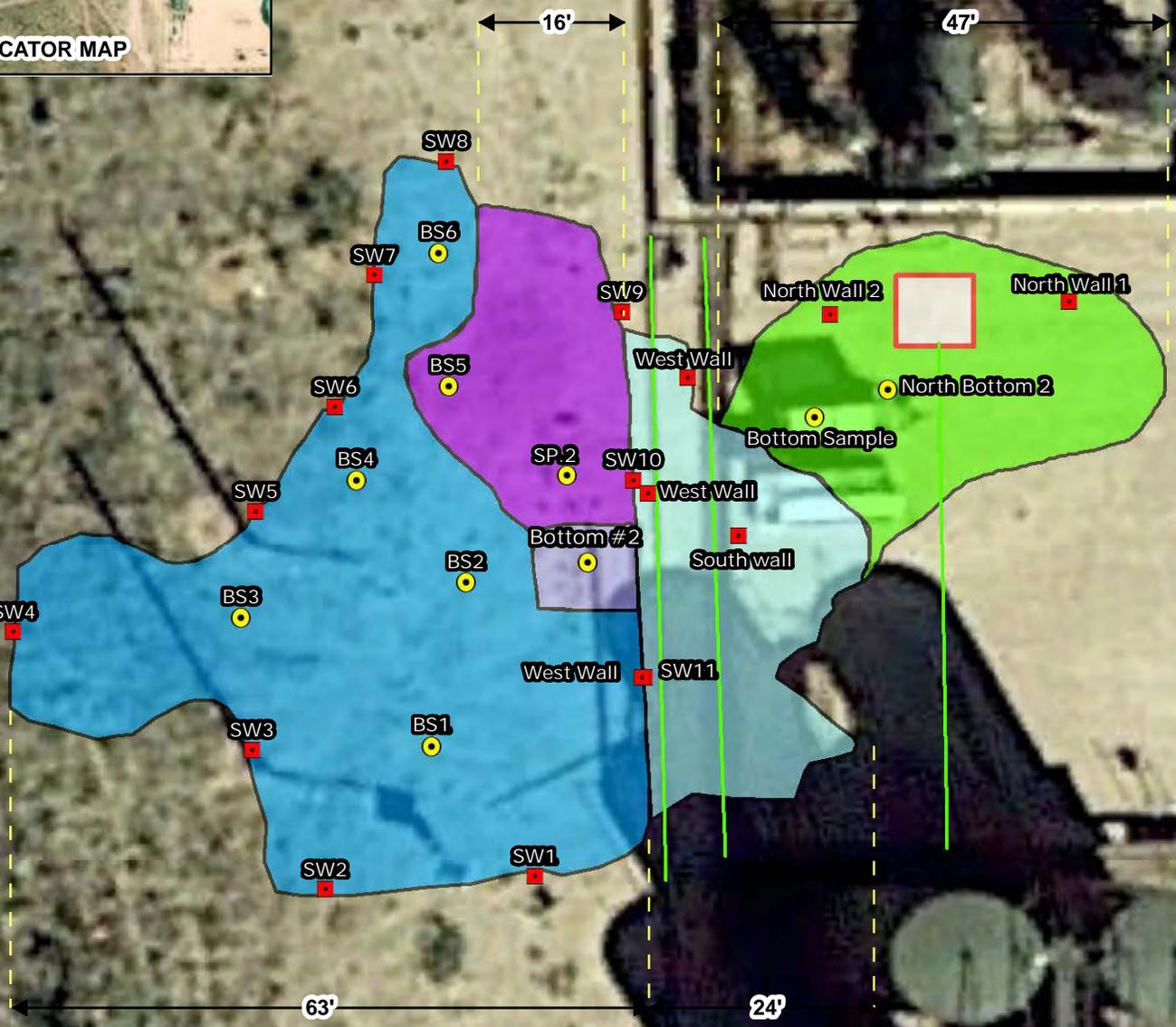
**RELEASE FOOTPRINT MAP**  
**CHISO 14 8711 #3**

LEA COUNTY, NEW MEXICO  
(32.3847142°, -103.4356292°)

PROJECT NO.:	212C-MD-03005
DATE:	APRIL 18, 2023
DESIGNED BY:	EMF
Figure No.	
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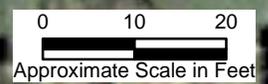
Document Path: C:\Users\E.MORENO\FLORES\Documents\Projects\BTA Oil Producers, LLC\03005 - Chiso 14\GIS\MXD\Figure 4 - 03005 - BTA - Chiso 14.mxd

NORTH



**Legend**

- BOTTOM SAMPLE LOCATIONS
- SIDEWALL SAMPLE LOCATIONS
- ABOVE GROUND FLOWLINES
- 16" Excavation
- 7' Excavation
- 3.5' Excavation
- Surface Grade
- Liner Installed at 19'
- Jet Pump



**BTA Oil Producers**

**Confirmation Sample Location Map  
CHISO 14 8711 #3**

LEA COUNTY, NEW MEXICO  
(32.3847142°, -103.4356292°)



www.tetrattech.com

901 West Wall Street, Suite 100  
Midland, Texas 79701  
Phone: (432) 682-4559  
Fax: (432) 682-3946

PROJECT NO.: 212C-MD-03005

DATE: MAY 9, 2023

DESIGNED BY: EMF

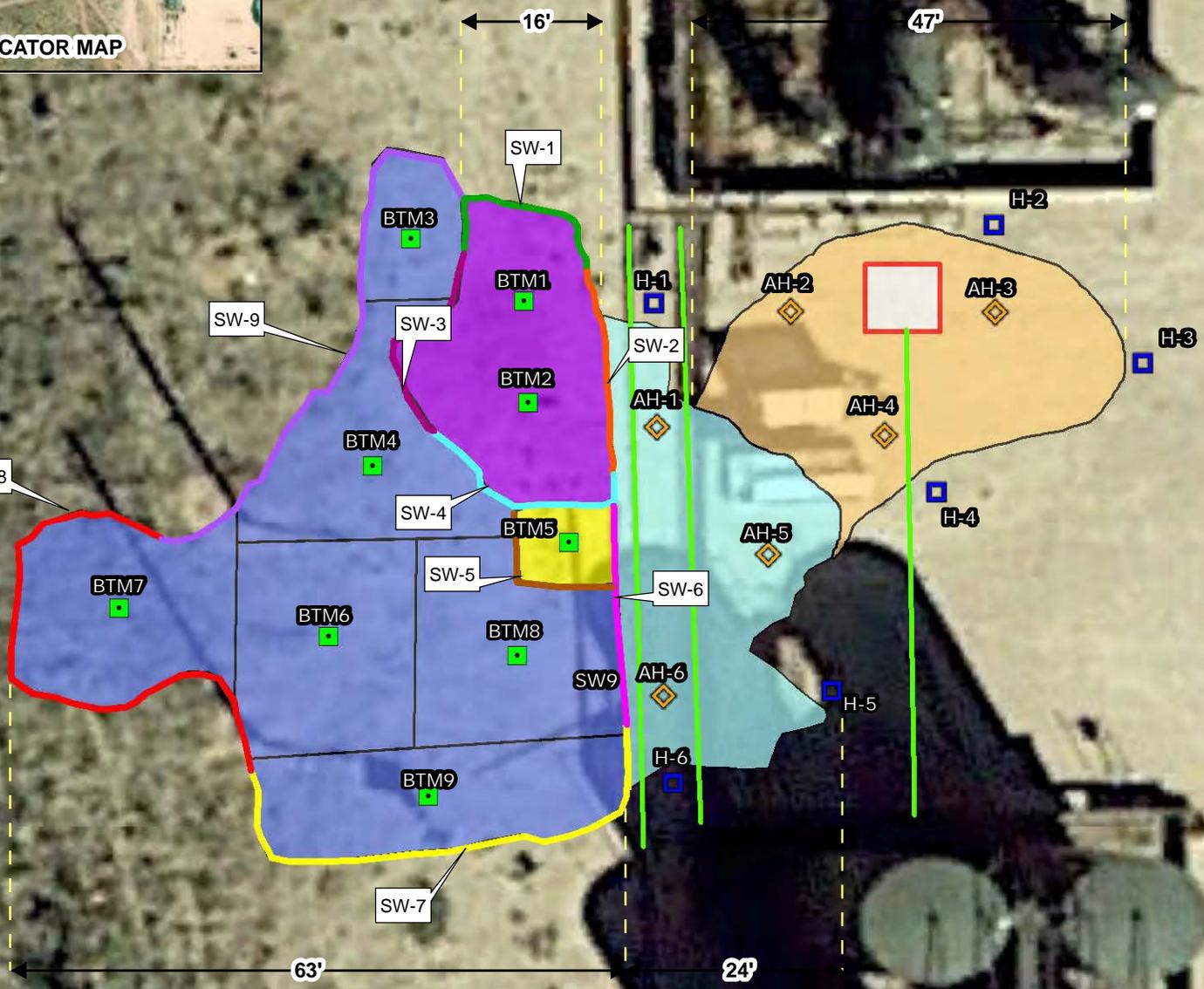
Figure No.

5

NORTH

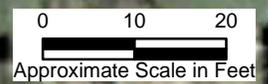


SITE LOCATOR MAP



**Legend**

- BOTTOM SAMPLES
- HORIZONTAL SAMPLES
- ◆ AUGER SAMPLES
- ABOVEGROUND FLOW LINE
- 16" EXCAVATION
- 3.5' EXCAVATION
- 7' EXCAVATION
- SURFACE GRADE
- LINER INSTALLED
- JET PUMP



www.tetrattech.com

901 West Wall Street, Suite 100  
Midland, Texas 79701  
Phone: (432) 682-4559  
Fax: (432) 682-3946

**BTA Oil Producers**

**PROPOSED SAMPLE LOCATION MAP  
CHISO 14 8711 #3**

LEA COUNTY, NEW MEXICO  
(32.3847142°, -103.4356292°)

PROJECT NO.: 212C-MD-03005

DATE: APRIL 20, 2023

DESIGNED BY: EMF

Figure No.

6

Document Path: C:\Users\E.MORENO\FLORES\Documents\Projects\BTA Oil Producers, LLC\03005 - Chiso 14\GIS\MXD\Figure 6 - 03005 - BTA - Chiso 14.mxd



# Tables

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**Table 1  
Delineation Analytical Results  
BTA Oil Producers  
Chiso 14 8711 #3 Jet Pump Release  
Lea County, New Mexico**

Sample ID	Sample Date	Excavtion Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
<b>RRALs</b>														
<b>Surface</b>	9/14/2022	Surface	-	X	<10.0	13	<10.0	13	<0.050	<0.050	<0.050	<0.150	<0.300	<b>50000</b>
<b>1'</b>	9/14/2022	1'	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<b>2920</b>
<b>2'</b>	9/14/2022	2'	-	X	55	<b>3080</b>	<b>688</b>	<b>3823</b>	<0.050	<0.050	<0.050	<0.150	<0.300	<b>960</b>
<b>SP1</b>	11/15/2021	Surface	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32
	11/15/2021	2.0'	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	48
<b>SP2</b>	11/15/2021	Surface	-	X	<0.10	11.1	<0.10	11.1	<0.050	<0.050	<0.050	<0.150	<0.300	368
	11/15/2021	2.0'	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
<b>SP3</b>	11/15/2021	Surface	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
	11/15/2021	2.0'	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<b>2200</b>
<b>SP4</b>	11/15/2021	Surface	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
	11/15/2021	2.0'	-	X	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	48.0

ft = feet below ground surface  
 (-) = not analyzed for respective constituent  
 TPH = total petroleum hydrocarbons  
 BTEX = benzene, toluene, ethylbenzene, xylene  
 Exceedance

**Table 2  
Confirmation Analytical Results  
BTA Oil Producers  
Chiso 14 8711 #3 Jet Pump Release  
Lea County, New Mexico**

Sample ID	Sample Date	Excavation Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	
			In-Situ	Removed	GRO	DRO	MRO	Total							
RRALs															
					100 mg/kg				10 mg/kg		50 mg/kg				600 mg/kg
Confirmation Soil Samples Pre-Jet Pump Release															
B2	2/24/2022	-	X	-	<10.0	56.8	14.1	70.9	<0.050	<0.050	<0.050	<0.150	<0.300	80	
B4	2/24/2022	5'	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112	
B5	2/24/2022	-	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	96	
Confirmation Soil Samples Post-Jet Pump Release															
B1	2/28/2022	-	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	352	
B2	2/28/2022	-	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	288	
B4	3/3/2022	-	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	992	
B5	2/28/2022	-	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	224	
SP. 2	2/28/2022	18'	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176	
	2/28/2022	19'	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	176	
N Wall 2	3/8/2022	-	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	160	
Bottom	3/8/2022	7"	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112	
N Wall 1	3/9/2022	9"	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0	
N Bottom	3/9/2022	14"	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	560	
S Wall	3/9/2022	4"	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80.0	
Bottom # 2	3/10/2022	6"	X	-	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	448	
W Wall	3/10/2022	10"	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	2400	
	3/10/2022	10"	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0	
	3/10/2022	15"	-	X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0	
SW 1 (CS 1)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0	
SW 2 (CS 2)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	64.0	
SW 3 (CS 3)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	16.0	
SW 4 (CS 4)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0	
SW 5 (CS 5)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0	
SW 6 (CS 6)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	
SW 7 (CS 7)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	
SW 8 (CS 8)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	16.0	
SW 9 (CS 9)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	
SW 10 (CS 10)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	
SW 11 (CS 11)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	16.0	
BTM1 (CBS 1)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0	
BTM2 (CBS 2)	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0	

**Table 2  
Confirmation Analytical Results  
BTA Oil Producers  
Chiso 14 8711 #3 Jet Pump Release  
Lea County, New Mexico**

Sample ID	Sample Date	Excavtion Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
<b>RRALs</b>														
								<b>100 mg/kg</b>	<b>10 mg/kg</b>				<b>50 mg/kg</b>	<b>600 mg/kg</b>
<b>BTM3 (CBS 3)</b>	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
<b>BTM4 (CBS 4)</b>	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
<b>BTM5 (CBS 5)</b>	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	112.0
<b>BTM6 (CBS 6)</b>	6/7/2022	-	X	-	<0.10	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.150	<0.300	32.0

RRALs (Recommended Remediation Action Levels) are based on NMOCD (New Mexico Oil Conservation Devision) *Guidelines for Remediation of Leaks, Spills, and Releases*.

All screening values and results are presented in milligrams per kilogram (mg/kg)

**Bolded cells represent a detected concentration above the respective screening value.**

< = analyte was not detected above the respective sample detection limit

ft = feet below ground surface

(-) = not analyzed for respective constituent

TPH = total petroleum hydrocarbons

BTEX = benzene, toluene, ethylbenzene, xylene

 Exceedance



# Appendix A

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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	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2205837214
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.38511 Longitude: -103.43594

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chiso 14 State Jet Pump and Excavation	Site Type: Tank Battery
Date Release Discovered: 2/26/2022	API# (if applicable) Nearest well:

Unit Letter	Section	Township	Range	County
P	14	22S	34E	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) 165 BBL	Volume Recovered (bbls) 70 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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

Jet Pump Failure.

A plug on the manifold of a Jet Pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an active excavation being conducted to remove previously contaminated soil. The volume of recovered water was taken from the excavation. The estimate of the volume of water released was calculated from tank gauge data (attached).

Incident ID	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  The volume of the release exceeds 25 BBL.
---	---

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?  
 Yes, by filing a Notice of Release (NOR) on the NMOCD Permitting website on 2/27/2022. The Incident ID listed above was assigned after the NOR was acknowledged by the NMOCD.

### 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 not been undertaken, explain why:

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

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

Printed Name: **Bob Hall** Title: Environmental Manager

Signature:  Date: 3/8/2022

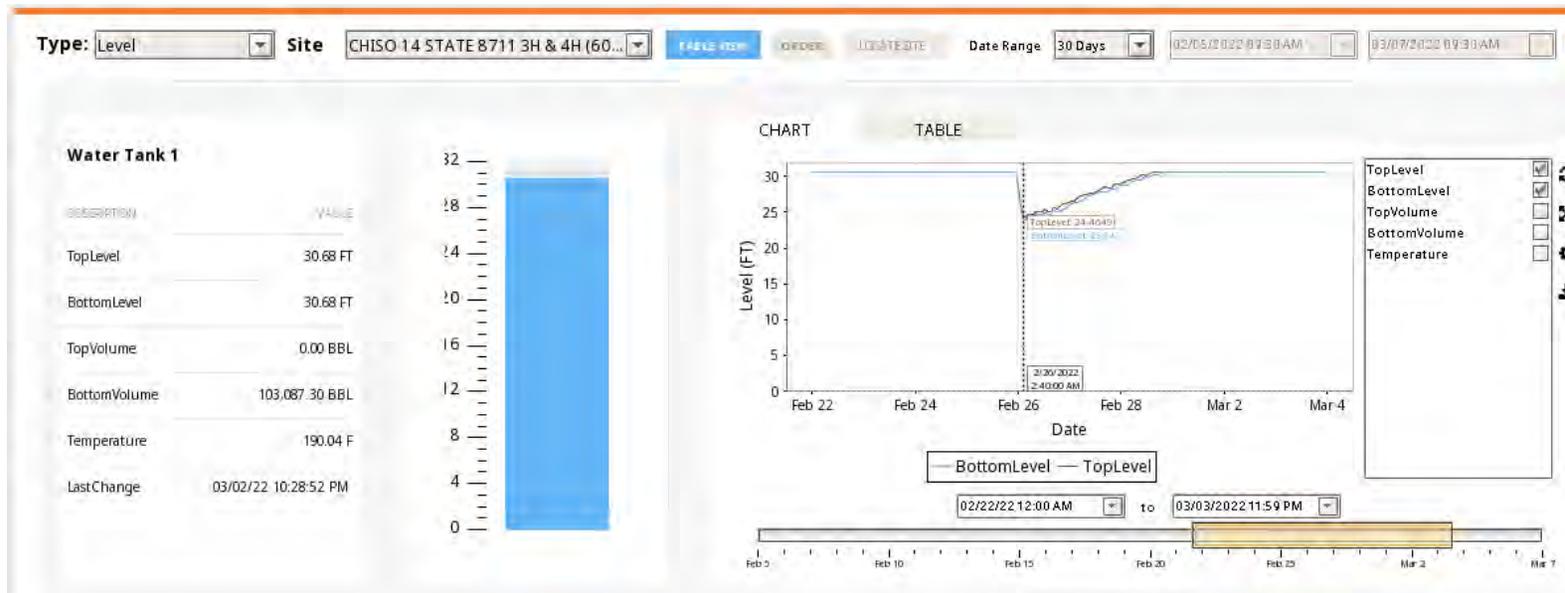
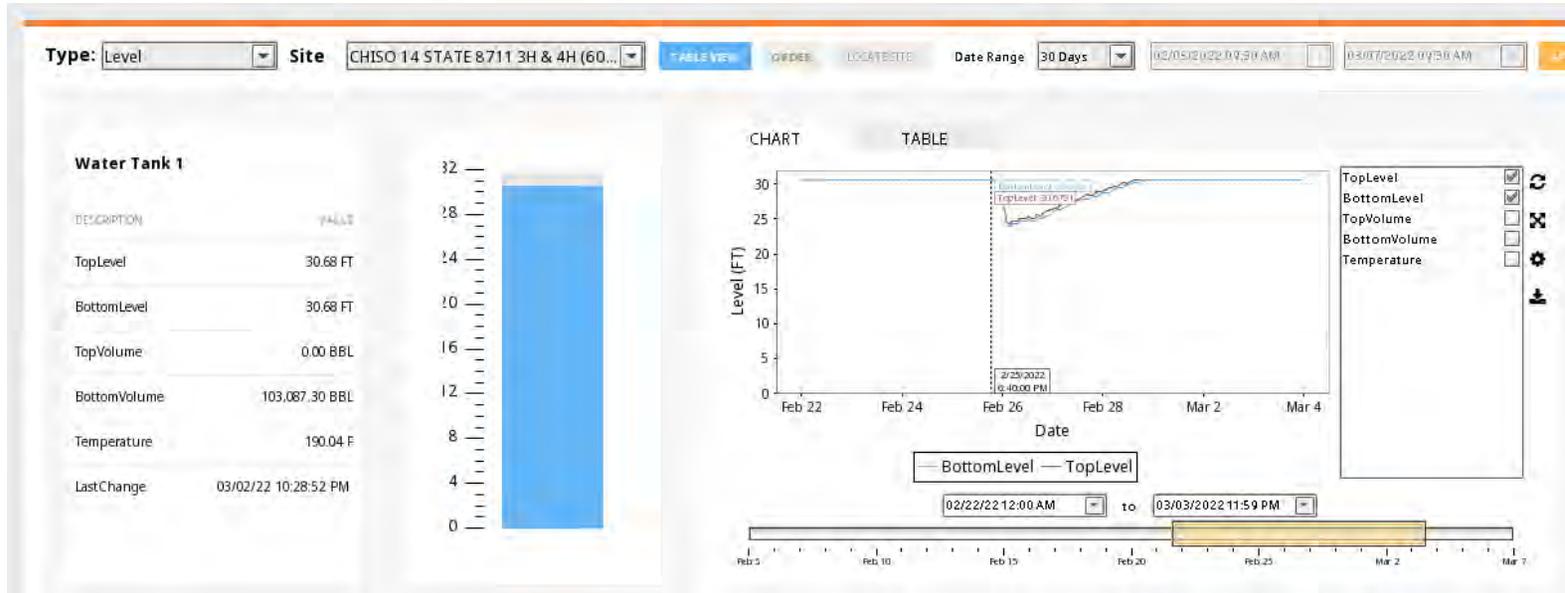
email: bhall@btaoil.com Telephone: 432-682-3753

**OCD Only**

Received by: Ramona Marcus Date: 3/10/2022

Chiso 14 State Water Tank Gauge – 2/26/2022

NAPP2205837214



**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 87973

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 87973
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rmarcus	None	3/10/2022



# Appendix B

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## Site Characterization

## **Site Characterization Summary**

### **Site Information:**

BTA Oil Chiso 14 8711 #3 Jet Pump Release (February 2022)  
Lea County, New Mexico  
T22S, R34E, Section 14  
(32.38511°, -103.43594°)

### **Site Characterization:**

- Low Karst
- No significant water features within specified distances
- Groundwater 17.39' BGS 0.44 Miles southwest of the site. (USGS, Section 23, 2015 Sample)
- Groundwater 42' BGS 0.13 Miles south of the site. (NMOSE, Section 23, 2019 sample)

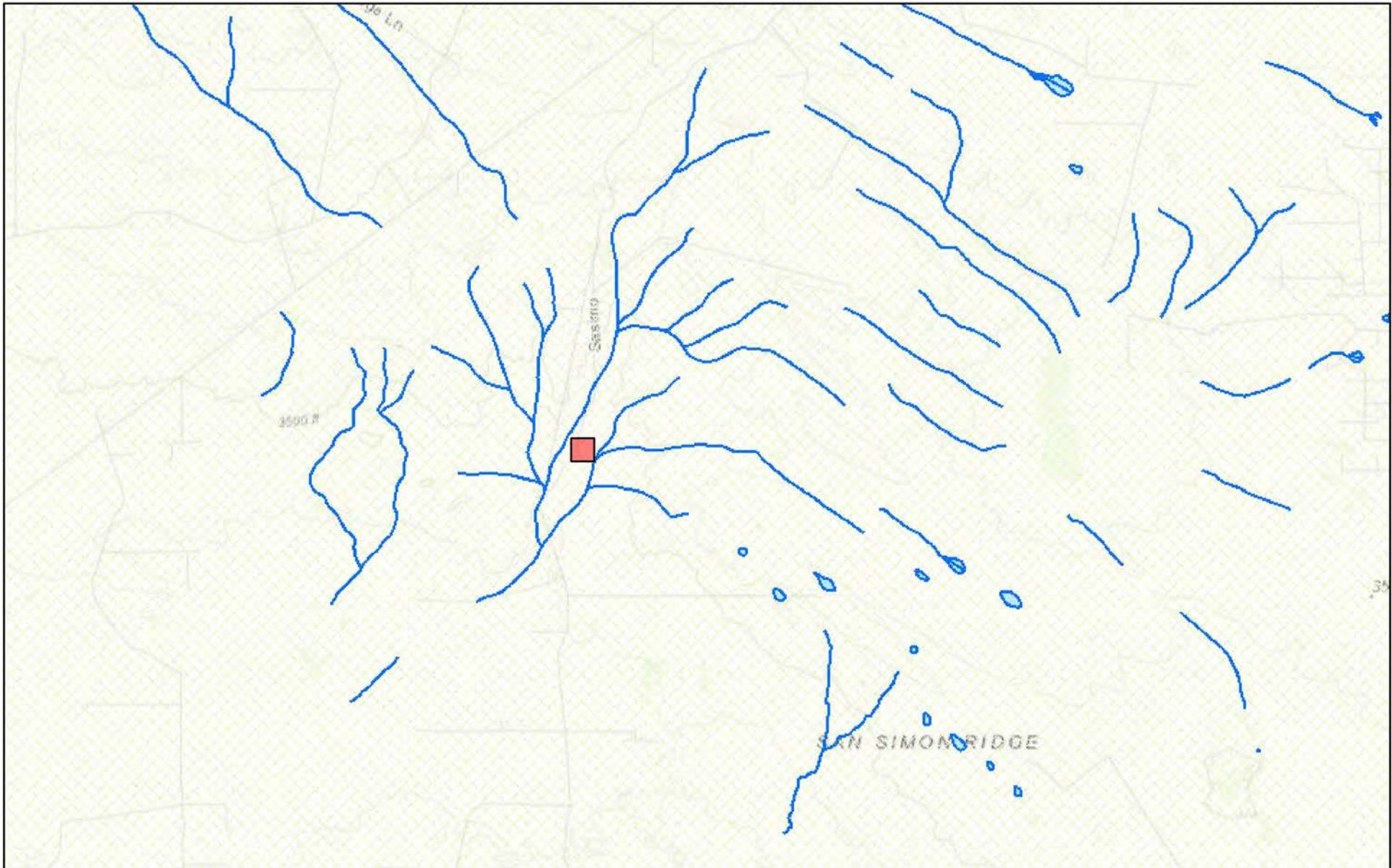
### **RRALs:**

- 600 mg/kg Chlorides
- 100 mg/kg Total TPH
- 10 mg/kg Benzene
- 50 mg/kg Total BTEX

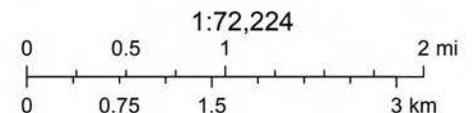
### **Explanation:**

Due to groundwater depth measured at less than 50 ft bgs within 0.5 miles of the site, Most stringent RRALs will be followed.

# New Mexico NFHL Data



January 31, 2023



FEMA, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey,

[nmflood.org](http://nmflood.org) is made possible through a collaboration with NMDHSEM. This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.

# Chiso 14 8711 #3 Jet Pump Release

## Legend

-  Chiso 14 8711 #3
-  High
-  Low
-  Medium

 Chiso 14 8711 #3





[USGS Home](#)  
[Contact USGS](#)  
[Search USGS](#)

National Water Information System: Mapper

[Help](#) [Info](#)



Site Information



USGS Home  
Contact USGS  
Search USGS

### National Water Information System: Web Interface

USGS Water Resources

Data Category:  Geographic Area:

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#)

Groundwater levels for the Nation

Important: [Next Generation Monitoring Location Page](#)

### Search Results -- 1 sites found

Agency code = usgs

site\_no list =

- 322231103262601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

### USGS 322231103262601 22S.34E.23.23131

Lea County, New Mexico

Latitude 32°22'47.6", Longitude 103°26'25.3" NAD83

Land-surface elevation 3,452 feet above NAVD88

The depth of the well is 60 feet below land surface.

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### Output formats

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
------	------	-------------------------------------	---------------------	--------------------------------------	---	---------------------------	-------------	----------------------------	-----------------------	----------------------------	----------------------------------

Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface	level, feet above specific vertical datum	Referenced vertical datum	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1968-06-10			D 62610		3425.15	NGVD29	1	Z			A
1968-06-10			D 62611		3426.75	NAVD88	1	Z			A
1968-06-10			D 72019	25.25			1	Z			A
1971-09-08			D 62610		3423.42	NGVD29	P	Z			A
1971-09-08			D 62611		3425.02	NAVD88	P	Z			A
1971-09-08			D 72019	26.98			P	Z			A
1976-12-16			D 62610		3426.10	NGVD29	1	Z			A
1976-12-16			D 62611		3427.70	NAVD88	1	Z			A
1976-12-16			D 72019	24.30			1	Z			A
1981-03-18			D 62610		3427.03	NGVD29	1	Z			A
1981-03-18			D 62611		3428.63	NAVD88	1	Z			A
1981-03-18			D 72019	23.37			1	Z			A
1986-04-10			D 62610		3427.57	NGVD29	1	Z			A
1986-04-10			D 62611		3429.17	NAVD88	1	Z			A
1986-04-10			D 72019	22.83			1	Z			A
1991-05-03			D 62610		3427.87	NGVD29	1	Z			A
1991-05-03			D 62611		3429.47	NAVD88	1	Z			A
1991-05-03			D 72019	22.53			1	Z			A
1996-02-21			D 62610		3428.27	NGVD29	1	S			A
1996-02-21			D 62611		3429.87	NAVD88	1	S			A
1996-02-21			D 72019	22.13			1	S			A
2015-12-18	21:30 UTC		m 62610		3433.01	NGVD29	1	S	USGS	S	A
2015-12-18	21:30 UTC		m 62611		3434.61	NAVD88	1	S	USGS	S	A
2015-12-18	21:30 UTC		m 72019	17.39			1	S	USGS	S	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet

Section	Code	Description
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2023-01-31 15:30:35 EST

0.29 0.25 nadww01





# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 SEP 19 10:51 AM  
 STATE ENGINEER  
 RECORDS

<b>1. GENERAL AND WELL LOCATION</b>	OSE POD NO. (WELL NO.) CP-1682-POD1 South 2		WELL TAG ID NO. 2062A		OSE FILE NO(S) CP-1682	
	WELL OWNER NAME(S) Merchant Livestock Company/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) 575-398-2424	
	WELL OWNER MAILING ADDRESS PO Box 692				CITY Tatum	STATE ZIP NM 88267
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 22	SECONDS 59.66	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
	LONGITUDE -103	26	7.87	W		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW1/4 NE1/4 NE1/4 Section 23, Township 22 South, Range 34 East on Merchant Livestock Company Land						

<b>2. DRILLING &amp; CASING INFORMATION</b>	LICENSE NO. WD 421		NAME OF LICENSED DRILLER Corky Glenn			NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.		
	DRILLING STARTED 09/10/19	DRILLING ENDED 09/13/19	DEPTH OF COMPLETED WELL (FT) 294	BORE HOLE DEPTH (FT) 294	DEPTH WATER FIRST ENCOUNTERED (FT) 42			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 31		
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	22.5'	20"	Steel 12 3/4" OD	Plain End	12.25	.25	--
	0	294'	20"	Steel Casing 8 5/8" / 8.625" OD	Plain End	8.125	.25	1/8"
				Bottom 252 Perforated				

<b>3. ANNULAR MATERIAL</b>	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	22.5'	20"	Cemented Redi Mix	Fill to Top	Top Pour
	0	294'	20"	3/8" Veilmore Gravel	18.52 CY	Top Pour

FOR OSE INTERNAL USE

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

FILE NO. CP-1682	POD NO. 1	TRN NO. 632044
LOCATION 212 Sec 23 T22S R 34E	WELL TAG ID NO. 2062A	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO				
	0	6	6	Soil	Y ✓ N	
	6	9	3	Soil & Sand	Y ✓ N	
	9	16	7	Caliche	Y ✓ N	
	16	20	4	Clay & Sand	Y ✓ N	
	20	42	22	Red Clay	Y ✓ N	
	42	56	14	Brown Sandrock	✓ Y N	5.00
	56	63	7	Red Clay	Y ✓ N	
	63	68	5	White & Green Clay	Y ✓ N	
	68	92	24	Brown Sandrock	✓ Y N	9.00
	92	122	30	Red Clay	Y ✓ N	
	122	128	6	Brown Shale	Y ✓ N	
	128	165	37	Red Clay with Stringers of Brown Sandrock	Y ✓ N	
	165	187	22	Brown Shale	Y ✓ N	
	187	225	38	Red Clay & Red Shale	Y ✓ N	
	225	242	17	Brown Shale	Y ✓ N	
	242	274	32	Blue Sandrock & Shale	✓ Y N	1.00
	274	294	20	Red Shale	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input checked="" type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 15.00	

5. TEST, RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Travis Glenn License # 1719 (Glenn's Water Well Service, Inc.)		

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME	Corky Glenn _____ DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1682	POD NO. 1	TRN NO. 632044	
LOCATION 212 Sec 23 T22S R34E	WELL TAG ID NO. 2062A	PAGE 2 OF 2	



# Appendix C

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## Photographic Documentation

**Photographic Log  
Chiso State #14 8711 3H & 4H Jet Pump Release  
BTA Oil Producers, LLC**

<p><b>Photo: 1</b></p> <p><b>Description:</b></p> <p>View of Remediation Activities – North side of the Site facing south.</p>	
--	--

<p><b>Photo: 2</b></p> <p><b>Description:</b></p> <p>View of Remediation Activities – North side of the Site facing southeast.</p>	
--	--

Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	 <b>TETRA TECH</b>
11/18/22- 11/29/22	212C-MD-02963	Alves Oilfield Services/ Tetra Tech, Inc.	Page 1 of 5	BTA Oil Company	Chiso 3-4 Jet Pump Release	

**Photographic Log  
Chiso State #14 8711 3H & 4H Jet Pump Release  
BTA Oil Producers, LLC**

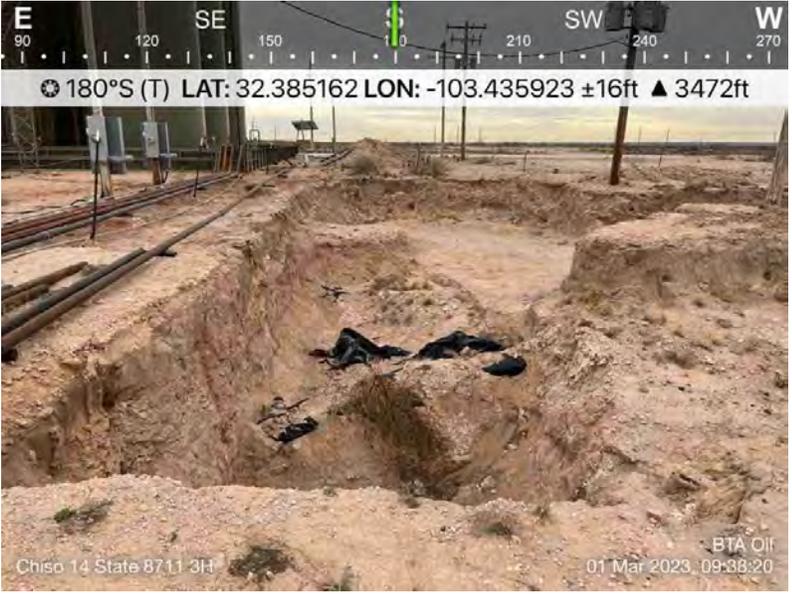
<p><b>Photo: 3</b></p> <p><b>Description:</b></p> <p>View of Remediation Activities – South side of the Site facing northeast.</p>	
--	--

<p><b>Photo: 4</b></p> <p><b>Description:</b></p> <p>View of Remediation Activities – North side of the Site facing southeast.</p>	
--	--

Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	 <b>TETRA TECH</b>
11/18/22- 11/29/22	212C-MD-02963	Alves Oilfield Services/ Tetra Tech, Inc.	Page 2 of 5	BTA Oil Company	Chiso 3-4 Jet Pump Release	

**Photographic Log  
Chiso State #14 8711 3H & 4H Jet Pump Release  
BTA Oil Producers, LLC**

<p><b>Photo: 5</b></p> <p><b>Description:</b></p> <p>View of Remediation Activities – South side of the Site facing north.</p>	
--	--

<p><b>Photo: 6</b></p> <p><b>Description:</b></p> <p>View of the excavation – North side of the site facing South.</p>	
--	--

Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	
11/18/22- 11/29/22	212C-MD-02963	Alves Oilfield Services/ Tetra Tech, Inc.	Page 3 of 5	BTA Oil Company	Chiso 3-4 Jet Pump Release	

**Photographic Log**  
**Chiso State #14 8711 3H & 4H Jet Pump Release**  
**BTA Oil Producers, LLC**

<p><b>Photo: 7</b></p> <p><b>Description:</b></p> <p>View of the excavation adjacent to the release area.</p>	
---	--

<p><b>Photo: 8</b></p> <p><b>Description:</b></p> <p>View of the excavation – South side of the site facing north.</p>	
--	--

Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	
11/18/22- 11/29/22	212C-MD-02963	Alves Oilfield Services/ Tetra Tech, Inc.	Page 4 of 5	BTA Oil Company	Chiso 3-4 Jet Pump Release	

**Photographic Log**  
**Chiso State #14 8711 3H & 4H Jet Pump Release**  
**BTA Oil Producers, LLC**

<p><b>Photo: 9</b></p> <p><b>Description:</b></p> <p>View of the excavation – West side of the site facing northeast.</p>	
---	--

<p><b>Photo: 10</b></p> <p><b>Description:</b></p> <p>View of the excavation – southeast side of the site facing northwest.</p>	
---	--

Date Taken:	Job No.	Photographs Taken By:	Page No.	Client:	Site Name:	 <b>TETRA TECH</b>
11/18/22- 11/29/22	212C-MD-02963	Alves Oilfield Services/ Tetra Tech, Inc.	Page 5 of 5	BTA Oil Company	Chiso 3-4 Jet Pump Release	



# Appendix D

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Analytical Laboratory Reports



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

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September 20, 2021

MATTHEW LONGCRIER

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: CHISO 14 STATE

Enclosed are the results of analyses for samples received by the laboratory on 09/15/21 8:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	09/15/2021	Sampling Date:	09/14/2021
Reported:	09/20/2021	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: SURFACE (H212552-01)**

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	09/16/2021	ND	1.82	91.0	2.00	3.11	
Toluene*	<0.050	0.050	09/16/2021	ND	1.99	99.6	2.00	2.55	
Ethylbenzene*	<0.050	0.050	09/16/2021	ND	1.96	98.0	2.00	2.35	
Total Xylenes*	<0.150	0.150	09/16/2021	ND	5.95	99.1	6.00	2.15	
Total BTEX	<0.300	0.300	09/16/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	50000	16.0	09/16/2021	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	09/17/2021	ND	225	112	200	0.847	
<b>DRO &gt;C10-C28*</b>	<b>12.9</b>	10.0	09/17/2021	ND	226	113	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	09/17/2021	ND					

Surrogate: 1-Chlorooctane 95.1 % 44.3-133

Surrogate: 1-Chlorooctadecane 91.2 % 38.9-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	09/15/2021	Sampling Date:	09/14/2021
Reported:	09/20/2021	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: 1' (H212552-02)**

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	09/16/2021	ND	1.82	91.0	2.00	3.11	
Toluene*	<0.050	0.050	09/16/2021	ND	1.99	99.6	2.00	2.55	
Ethylbenzene*	<0.050	0.050	09/16/2021	ND	1.96	98.0	2.00	2.35	
Total Xylenes*	<0.150	0.150	09/16/2021	ND	5.95	99.1	6.00	2.15	
Total BTEX	<0.300	0.300	09/16/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	09/16/2021	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	09/17/2021	ND	225	112	200	0.847	
DRO >C10-C28*	<10.0	10.0	09/17/2021	ND	226	113	200	1.40	
EXT DRO >C28-C36	<10.0	10.0	09/17/2021	ND					

Surrogate: 1-Chlorooctane 88.6 % 44.3-133

Surrogate: 1-Chlorooctadecane 85.6 % 38.9-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	09/15/2021	Sampling Date:	09/14/2021
Reported:	09/20/2021	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: 2' (H212552-03)**

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2021	ND	1.82	91.0	2.00	3.11	
Toluene*	<0.050	0.050	09/16/2021	ND	1.99	99.6	2.00	2.55	
Ethylbenzene*	<0.050	0.050	09/16/2021	ND	1.96	98.0	2.00	2.35	GC-NC
Total Xylenes*	<0.150	0.150	09/16/2021	ND	5.95	99.1	6.00	2.15	
Total BTEX	<0.300	0.300	09/16/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 272 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	09/16/2021	ND	432	108	400	3.77	QM-07

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*	55.4	10.0	09/18/2021	ND	190	95.2	200	0.563	
DRO >C10-C28*	3080	10.0	09/18/2021	ND	198	98.8	200	0.777	QM-07
EXT DRO >C28-C36	688	10.0	09/18/2021	ND					

Surrogate: 1-Chlorooctane 96.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 223 % 38.9-142

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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.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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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: <u>RFSoil</u> Project Manager: <u>Matt Longner</u>		P.O. #: _____ Company: <u>BTA</u>					
Address: _____ City: _____ State: _____ Zip: _____		Attn: <u>Bob Hill</u> Address: _____ City: _____ State: _____ Zip: _____					
Phone #: _____ Fax #: _____		Project #: _____ Project Owner: _____					
Project Name: <u>Chiso 14 State</u>		State: _____ Zip: _____					
Project Location: <u>del new Mexico</u>		Phone #: _____ Fax #: _____					
Sampler Name: <u>Matt Longner</u>		FOR LAB USE ONLY					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX	PRESERV	SAMPLING	ANALYSIS REQUEST
<u>H215522</u>	<u>Surface</u>			<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> OIL <input type="checkbox"/> SLUDGE OTHER: _____	<input type="checkbox"/> ACID/BASE <input type="checkbox"/> ICE / COOL OTHER: _____	DATE: <u>9/14</u> TIME: <u>3:00</u>	<u>Chlorides</u> <u>TPH</u> <u>BTEX</u>
<u>1</u>	<u>1A+</u>			<input checked="" type="checkbox"/>		<u>1</u>	<input checked="" type="checkbox"/>
<u>2</u>	<u>2A+</u>			<input checked="" type="checkbox"/>		<u>1</u>	<input checked="" type="checkbox"/>
<u>3</u>	<u>2A+</u>			<input checked="" type="checkbox"/>		<u>1</u>	<input checked="" type="checkbox"/>

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Relinquished By: [Signature] Date: 9/15  
 Received By: [Signature] Date: 9/15

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other: -9.2c #113

Sample Condition:  
 Cool  Intact  
 Yes  No

CHECKED BY: [Signature] (Initials) TD

REMARKS: Bill to Bob Hill BTA  
No Rush

Phone Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 Fax Result:  Yes  No Add'l Fax #: \_\_\_\_\_

+ Cardinal cannot accept mixed aluminum Division Fax numbers between 575-393-2000 and 575-393-2000



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

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November 19, 2021

HAYES ADAMS

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: CHISO STATE

Enclosed are the results of analyses for samples received by the laboratory on 11/16/21 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 1 SURFACE (H213274-01)**

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	11/17/2021	ND	2.22	111	2.00	8.33	
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85	
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73	
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76	
Total BTEX	<0.300	0.300	11/17/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45	
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	198	98.8	200	1.50	
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-133

Surrogate: 1-Chlorooctadecane 101 % 38.9-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 1 2' (H213274-02)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45		
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	198	98.8	200	1.50		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 80.1 % 44.3-133

Surrogate: 1-Chlorooctadecane 78.4 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 2 SURFACE (H213274-03)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>368</b>	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45		
<b>DRO &gt;C10-C28*</b>	<b>11.1</b>	10.0	11/18/2021	ND	198	98.8	200	1.50		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 86.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 84.0 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 2 2' (H213274-04)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45		
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	198	98.8	200	1.50		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 86.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 86.5 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 3 SURFACE (H213274-05)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45		
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	198	98.8	200	1.50		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 76.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 76.4 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 3 2' (H213274-06)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2200	16.0	11/18/2021	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	11/18/2021	ND	209	104	200	1.45		
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	198	98.8	200	1.50		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 89.1 % 44.3-133

Surrogate: 1-Chlorooctadecane 89.6 % 38.9-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 4 SURFACE (H213274-07)**

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	11/17/2021	ND	2.22	111	2.00	8.33	
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85	
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73	
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76	
Total BTEX	<0.300	0.300	11/17/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 69.9-140

Chloride, SM4500CI-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	11/18/2021	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	11/18/2021	ND	201	101	200	2.96	
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	223	111	200	0.335	
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND					

Surrogate: 1-Chlorooctane 65.7 % 44.3-133

Surrogate: 1-Chlorooctadecane 62.8 % 38.9-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 HAYES ADAMS  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	11/16/2021	Sampling Date:	11/15/2021
Reported:	11/19/2021	Sampling Type:	Soil
Project Name:	CHISO STATE	Sampling Condition:	Cool & Intact
Project Number:	EUNICE NM	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE NM		

**Sample ID: SP 4 2' (H213274-08)**

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	11/17/2021	ND	2.22	111	2.00	8.33		
Toluene*	<0.050	0.050	11/17/2021	ND	2.11	106	2.00	7.85		
Ethylbenzene*	<0.050	0.050	11/17/2021	ND	2.09	104	2.00	7.73		
Total Xylenes*	<0.150	0.150	11/17/2021	ND	6.32	105	6.00	6.76		
Total BTEX	<0.300	0.300	11/17/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	11/18/2021	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	11/18/2021	ND	201	101	200	2.96		
DRO >C10-C28*	<10.0	10.0	11/18/2021	ND	223	111	200	0.335		
EXT DRO >C28-C36	<10.0	10.0	11/18/2021	ND						

Surrogate: 1-Chlorooctane 53.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 51.3 % 38.9-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: *Arsoil* P.O. #: \_\_\_\_\_  
 Project Manager: *Hager* Company: \_\_\_\_\_  
 Address: \_\_\_\_\_ Attn: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Project Owner: \_\_\_\_\_  
 Project Name: *Arso State* City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Project Location: *By Evans NM* Phone #: \_\_\_\_\_  
 Sampler Name: *Omar* Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	MATRIX							DATE	TIME	ANALYSIS
		(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE			
<i>H133271</i>	<i>SP1 Surface</i>								<i>Nov 15</i>	<i>9AM</i>	<i>TPH</i>
	<i>SP2 Surface</i>										<i>BTEX</i>
	<i>SP3 Surface</i>										<i>Chlorides</i>
	<i>SP4 Surface</i>										
	<i>SP5 Surface</i>										
	<i>SP6 Surface</i>										
	<i>SP7 Surface</i>										
	<i>SP8 Surface</i>										

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 theories or remedies.

Relinquished By: *[Signature]* Date: *11-16-21* Time: *1:55*  
 Received By: *[Signature]* Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: \_\_\_\_\_  
 REMARKS: *Bill to BOB (BTR)*

Delivered By: (Circle One) Observed Temp. °C: *-6.9* Sample Condition:  Cool  Intact  
 Corrected Temp. °C: *-7.4*  Yes  No  
 Checked By: *[Signature]* (Initials)  
 Turnaround Time:  Standard  Rush  
 Thermometer ID #113 *-0.5°C* Bacteria (only)  Cool  Intact  
 Correction Factor:  Yes  No  Yes  No  
 Sample Condition Observed Temp. °C: \_\_\_\_\_  
 Corrected Temp. °C: \_\_\_\_\_



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

---

March 02, 2022

MATTHEW LONGCRIER

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: CHISO 14 STATE

Enclosed are the results of analyses for samples received by the laboratory on 03/01/22 8:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	03/01/2022	Sampling Date:	02/28/2022
Reported:	03/02/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE, NM		

**Sample ID: B 1 (H220775-01)**

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	03/01/2022	ND	2.04	102	2.00	2.43	
Toluene*	<0.050	0.050	03/01/2022	ND	2.04	102	2.00	2.02	
Ethylbenzene*	<0.050	0.050	03/01/2022	ND	1.95	97.5	2.00	2.94	
Total Xylenes*	<0.150	0.150	03/01/2022	ND	6.03	100	6.00	3.18	
Total BTEX	<0.300	0.300	03/01/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	03/02/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2022	ND	225	112	200	7.70	
DRO >C10-C28*	<10.0	10.0	03/01/2022	ND	206	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	03/01/2022	ND					

Surrogate: 1-Chlorooctane 91.2 % 66.9-136

Surrogate: 1-Chlorooctadecane 93.2 % 59.5-142

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:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	03/01/2022	Sampling Date:	02/28/2022
Reported:	03/02/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE, NM		

**Sample ID: B 2 (H220775-02)**

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	03/01/2022	ND	2.04	102	2.00	2.43	
Toluene*	<0.050	0.050	03/01/2022	ND	2.04	102	2.00	2.02	
Ethylbenzene*	<0.050	0.050	03/01/2022	ND	1.95	97.5	2.00	2.94	
Total Xylenes*	<0.150	0.150	03/01/2022	ND	6.03	100	6.00	3.18	
Total BTEX	<0.300	0.300	03/01/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	03/02/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2022	ND	225	112	200	7.70	
DRO >C10-C28*	<10.0	10.0	03/01/2022	ND	206	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	03/01/2022	ND					

Surrogate: 1-Chlorooctane 97.0 % 66.9-136

Surrogate: 1-Chlorooctadecane 101 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	03/01/2022	Sampling Date:	02/28/2022
Reported:	03/02/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE, NM		

**Sample ID: B 5 (H220775-03)**

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	03/01/2022	ND	2.04	102	2.00	2.43	
Toluene*	<0.050	0.050	03/01/2022	ND	2.04	102	2.00	2.02	
Ethylbenzene*	<0.050	0.050	03/01/2022	ND	1.95	97.5	2.00	2.94	
Total Xylenes*	<0.150	0.150	03/01/2022	ND	6.03	100	6.00	3.18	
Total BTEX	<0.300	0.300	03/01/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	03/02/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2022	ND	225	112	200	7.70	
DRO >C10-C28*	<10.0	10.0	03/01/2022	ND	206	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	03/01/2022	ND					

Surrogate: 1-Chlorooctane 92.1 % 66.9-136

Surrogate: 1-Chlorooctadecane 95.7 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	03/01/2022	Sampling Date:	02/28/2022
Reported:	03/02/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE, NM		

**Sample ID: S 1 (H220775-04)**

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	03/01/2022	ND	2.04	102	2.00	2.43	
Toluene*	<0.050	0.050	03/01/2022	ND	2.04	102	2.00	2.02	
Ethylbenzene*	<0.050	0.050	03/01/2022	ND	1.95	97.5	2.00	2.94	
Total Xylenes*	<0.150	0.150	03/01/2022	ND	6.03	100	6.00	3.18	
Total BTEX	<0.300	0.300	03/01/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	03/02/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/02/2022	ND	225	112	200	7.70	
DRO >C10-C28*	<10.0	10.0	03/02/2022	ND	206	103	200	8.58	
EXT DRO >C28-C36	<10.0	10.0	03/02/2022	ND					

Surrogate: 1-Chlorooctane 102 % 66.9-136

Surrogate: 1-Chlorooctadecane 106 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: RXSOil  
 Project Manager: Matt  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project Name: Chiso 14 State  
 Project Location: curtice arm  
 Sampler Name: Matt  
 Project Owner: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

**BILL TO**  
 P.O. #: \_\_\_\_\_  
 Company: BTA  
 Attn: Bob Hill  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

**ANALYSIS REQUEST**

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING	DATE	TIME	TPH	B-tex	Chlorides
<u>A220775</u>	<u>B1</u>			<u>SOIL</u>			<u>2/28</u>	<u>4:00</u>	<u>X</u>	<u>X</u>	<u>X</u>
	<u>B2</u>			<u>SOIL</u>					<u>X</u>	<u>X</u>	<u>X</u>
	<u>B5</u>			<u>SOIL</u>					<u>X</u>	<u>X</u>	<u>X</u>
	<u>S1</u>			<u>SOIL</u>			<u>2/28</u>	<u>4:00</u>	<u>X</u>	<u>X</u>	<u>X</u>

PLEASE NOTE: Labeling and Damages. Container identity 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 analysis. 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. 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, successors and/or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated theories or otherwise.

Relinquished By: \_\_\_\_\_ Date: 3-1-22  
 Received By: \_\_\_\_\_ Date: 0835

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Observed Temp. °C: 16.2  
 Corrected Temp. °C: 16.7

Sample Condition: COOL  
 Cool Intact: Yes  
 Checked By: \_\_\_\_\_ (Initials)  
 Turnaround Time: \_\_\_\_\_  
 Thermometer ID #13: 056  
 Correction Factor: -0.56

Vertical Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: \_\_\_\_\_  
 REMARKS: \_\_\_\_\_

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



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

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March 01, 2022

MATTHEW LONGCRIER

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: CHISO 14 STATE

Enclosed are the results of analyses for samples received by the laboratory on 02/25/22 8:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	02/25/2022	Sampling Date:	02/24/2022
Reported:	03/01/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: B 2 (H220738-01)**

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	02/27/2022	ND	1.98	98.8	2.00	4.18		
Toluene*	<0.050	0.050	02/27/2022	ND	1.98	99.0	2.00	3.19		
Ethylbenzene*	<0.050	0.050	02/27/2022	ND	1.99	99.3	2.00	2.77		
Total Xylenes*	<0.150	0.150	02/27/2022	ND	6.13	102	6.00	2.84		
Total BTEX	<0.300	0.300	02/27/2022	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/26/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	02/28/2022	ND	188	94.1	200	13.9		
DRO >C10-C28*	56.8	10.0	02/28/2022	ND	164	82.1	200	3.76		
EXT DRO >C28-C36	14.1	10.0	02/28/2022	ND						

Surrogate: 1-Chlorooctane 100 % 66.9-136

Surrogate: 1-Chlorooctadecane 110 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	02/25/2022	Sampling Date:	02/24/2022
Reported:	03/01/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: B 4 5' (H220738-02)**

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	02/27/2022	ND	1.98	98.8	2.00	4.18	
Toluene*	<0.050	0.050	02/27/2022	ND	1.98	99.0	2.00	3.19	
Ethylbenzene*	<0.050	0.050	02/27/2022	ND	1.99	99.3	2.00	2.77	
Total Xylenes*	<0.150	0.150	02/27/2022	ND	6.13	102	6.00	2.84	
Total BTEX	<0.300	0.300	02/27/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/26/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2022	ND	188	94.1	200	13.9	
DRO >C10-C28*	<10.0	10.0	02/28/2022	ND	164	82.1	200	3.76	
EXT DRO >C28-C36	<10.0	10.0	02/28/2022	ND					

Surrogate: 1-Chlorooctane 105 % 66.9-136

Surrogate: 1-Chlorooctadecane 106 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	02/25/2022	Sampling Date:	02/24/2022
Reported:	03/01/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - JAL NM		

**Sample ID: B 5 (H220738-03)**

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	02/27/2022	ND	1.98	98.8	2.00	4.18	
Toluene*	<0.050	0.050	02/27/2022	ND	1.98	99.0	2.00	3.19	
Ethylbenzene*	<0.050	0.050	02/27/2022	ND	1.99	99.3	2.00	2.77	
Total Xylenes*	<0.150	0.150	02/27/2022	ND	6.13	102	6.00	2.84	
Total BTEX	<0.300	0.300	02/27/2022	ND					

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

Chloride, SM4500CI-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	02/26/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/28/2022	ND	188	94.1	200	13.9	
DRO >C10-C28*	<10.0	10.0	02/28/2022	ND	164	82.1	200	3.76	
EXT DRO >C28-C36	<10.0	10.0	02/28/2022	ND					

Surrogate: 1-Chlorooctane 101 % 66.9-136

Surrogate: 1-Chlorooctadecane 106 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

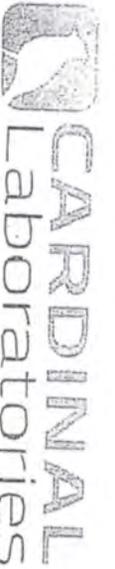
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Excel  
Project Manager: Mat

BILL TO  
P.O. #: \_\_\_\_\_  
Company: BTA  
Attn: Bob Holt  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone #: \_\_\_\_\_  
Fax #: \_\_\_\_\_

Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
Project #: \_\_\_\_\_ Project Owner: \_\_\_\_\_  
Project Name: Chise 14 Skk  
Project Location: Luvice NW  
Sampler Name: Mat

FOR LAB USE ONLY  
Lab I.D. H220738  
Sample I.D. \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS REQUEST
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
	B2					X				2/24	5:00pm	Chlorides
	B4					X						pH
	B5					X				2/24	5:00pm	Btex

PLEASE NOTE: Liability and Damages, Cardinal's liability and client's exclusive remedy for any claim arising whether listed in contract or not, shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever, shall be disallowed unless made in writing and received by Cardinal within 30 days after completion of the applicable analysis. A guarantee of performance is hereby provided for Cardinal's laboratory work. Cardinal's liability and client's exclusive remedy for any claim arising whether listed in contract or not, shall be limited to the amount paid by the client for the analysis.

Relinquished By: [Signature]  
Date: 2-25-22  
Time: 8:55

Received By: [Signature]  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Verbal Result:  Yes  No  Add'l Phone #: \_\_\_\_\_  
All Results are emailed. Please provide Email address: \_\_\_\_\_  
REMARKS: \_\_\_\_\_

Delivered By: (Circle One)  
Sampler - UPS - Bus - Other: \_\_\_\_\_  
Observed Temp. °C: 6.6  
Corrected Temp. °C: -7.1  
Sample Condition:  Cool  Intact  
Checked By: [Signature]  
Turnaround Time: \_\_\_\_\_ Standard 24:00  
Thermometer ID #113 0.52  
Correction Factor: 0.52  
Bacteria (only) Sample Condition:  Cool  Intact  
Corrected Temp. °C: \_\_\_\_\_



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

---

March 01, 2022

MICHAEL ALVES

ALVES OILFIELD SOLUTIONS

2215 W BENDER

HOBBS, NM 88240

RE: BTA - CHISO 3-4

Enclosed are the results of analyses for samples received by the laboratory on 02/28/22 15:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	02/28/2022	Sampling Date:	02/28/2022
Reported:	03/01/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	BTA		

**Sample ID: SP. 2 @ 18' (H220769-01)**

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	02/28/2022	ND	2.00	100	2.00	1.48	
Toluene*	<0.050	0.050	02/28/2022	ND	1.98	99.2	2.00	1.65	
Ethylbenzene*	<0.050	0.050	02/28/2022	ND	1.93	96.5	2.00	0.998	
Total Xylenes*	<0.150	0.150	02/28/2022	ND	6.00	100	6.00	0.601	
Total BTEX	<0.300	0.300	02/28/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	03/01/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2022	ND	216	108	200	4.94	
DRO >C10-C28*	<10.0	10.0	03/01/2022	ND	212	106	200	4.07	
EXT DRO >C28-C36	<10.0	10.0	03/01/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 129 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	02/28/2022	Sampling Date:	02/28/2022
Reported:	03/01/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Celey D. Keene
Project Location:	BTA		

**Sample ID: SP. 2 @ 19' (H220769-02)**

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	02/28/2022	ND	2.00	100	2.00	1.48	
Toluene*	<0.050	0.050	02/28/2022	ND	1.98	99.2	2.00	1.65	
Ethylbenzene*	<0.050	0.050	02/28/2022	ND	1.93	96.5	2.00	0.998	
Total Xylenes*	<0.150	0.150	02/28/2022	ND	6.00	100	6.00	0.601	
Total BTEX	<0.300	0.300	02/28/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	03/01/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/01/2022	ND	216	108	200	4.94	
DRO >C10-C28*	<10.0	10.0	03/01/2022	ND	212	106	200	4.07	
EXT DRO >C28-C36	<10.0	10.0	03/01/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 128 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Notes and Definitions**

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

Cardinal Laboratories

\*=Accredited Analyte

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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

BILL TO

ANALYSIS REQUEST

Company Name: **BTA**  
 Project Manager: **Mike Flues**

P.O. #:  
 Company: **BTA**  
 Attn: **Bob Hill**

Address:  
 City:  
 State:  
 Zip:

Address:  
 City:  
 State:  
 Zip:

Phone #:  
 Project #:

Phone #:  
 State:  
 Zip:

Project Name:  
 Project Location: **Chizo 3-4**  
 Sampler Name: **Talon Long**

Fax #:  
 Phone #:  
 State:  
 Zip:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	CL	TPH	B-tex
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
<b>H220769</b>	<b>1 SR. 2 @ 18'</b>	<b>5</b>	<b>1</b>			<b>X</b>					<b>2-28-20</b>	<b>11:30</b>	<b>X</b>	<b>X</b>	<b>X</b>
	<b>2 SR. 2 @ 14'</b>	<b>5</b>	<b>1</b>			<b>X</b>					<b>2-28-20</b>	<b>11:40</b>	<b>X</b>	<b>X</b>	<b>X</b>

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Relinquished By: *[Signature]*  
 Date: **2/28/20**  
 Time: **15:05**

Received By: *[Signature]*  
 Date: **2/28/20**  
 Time: **15:05**

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

Sample Condition  
 Cool  Intact   
 Yes  No

CHECKED BY: *[Signature]*

REMARKS: **Push**  
 Michaela.wes@arvesoilfield.com, org  
**Rx soil**



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

---

March 07, 2022

MATTHEW LONGCRIER

RX-SOIL INC.

201 MAIN STREET, SUITE 1360

FORT WORTH, TX 76102

RE: CHISO 14 STATE

Enclosed are the results of analyses for samples received by the laboratory on 03/04/22 8:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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:**

RX-SOIL INC.  
 MATTHEW LONGCRIER  
 201 MAIN STREET, SUITE 1360  
 FORT WORTH TX, 76102  
 Fax To: NA

Received:	03/04/2022	Sampling Date:	03/03/2022
Reported:	03/07/2022	Sampling Type:	Soil
Project Name:	CHISO 14 STATE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA - EUNICE, NM		

**Sample ID: B 4 (H220851-01)**

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	03/04/2022	ND	1.96	97.8	2.00	6.52		
Toluene*	<0.050	0.050	03/04/2022	ND	1.93	96.6	2.00	6.68		
Ethylbenzene*	<0.050	0.050	03/04/2022	ND	1.86	92.8	2.00	6.21		
Total Xylenes*	<0.150	0.150	03/04/2022	ND	5.81	96.9	6.00	5.66		
Total BTEX	<0.300	0.300	03/04/2022	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	992	16.0	03/04/2022	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	03/07/2022	ND	208	104	200	1.13		
DRO >C10-C28*	<10.0	10.0	03/07/2022	ND	200	99.8	200	3.01		
EXT DRO >C28-C36	<10.0	10.0	03/07/2022	ND						

Surrogate: 1-Chlorooctane 80.3 % 66.9-136

Surrogate: 1-Chlorooctadecane 86.7 % 59.5-142

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





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

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March 14, 2022

MICHAEL ALVES

ALVES OILFIELD SOLUTIONS

2215 W BENDER

HOBBS, NM 88240

RE: BTA - CHISO 3-4

Enclosed are the results of analyses for samples received by the laboratory on 03/11/22 12:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/08/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: N WALL 2 (H220990-01)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 98.2 % 66.9-136

Surrogate: 1-Chlorooctadecane 94.1 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/08/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: BOTTOM @ 7 (H220990-02)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 102 % 66.9-136

Surrogate: 1-Chlorooctadecane 99.3 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/09/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: N WALL 1 @ 9 (H220990-03)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 105 % 66.9-136

Surrogate: 1-Chlorooctadecane 102 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/09/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: N BOTTOM @ 14 (H220990-04)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 119 % 66.9-136

Surrogate: 1-Chlorooctadecane 121 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/09/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: S WALL @ 4 (H220990-05)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 99.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 99.0 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/10/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: W WALL @ 15-3 (H220990-06)**

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	03/11/2022	ND	1.96	97.8	2.00	4.44	
Toluene*	<0.050	0.050	03/11/2022	ND	1.97	98.4	2.00	5.00	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.90	94.9	2.00	5.08	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	5.92	98.6	6.00	4.66	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	03/12/2022	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 106 % 66.9-136

Surrogate: 1-Chlorooctadecane 106 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/10/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: BOTTOM #2 @ 6 (H220990-07)**

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	03/12/2022	ND	1.96	98.2	2.00	6.36	
Toluene*	<0.050	0.050	03/12/2022	ND	1.97	98.3	2.00	7.24	
Ethylbenzene*	<0.050	0.050	03/12/2022	ND	1.89	94.5	2.00	7.24	
Total Xylenes*	<0.150	0.150	03/12/2022	ND	5.88	98.0	6.00	7.39	
Total BTEX	<0.300	0.300	03/12/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	03/12/2022	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	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 97.3 % 66.9-136

Surrogate: 1-Chlorooctadecane 97.0 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/10/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: W WALL @ 10-4 (H220990-08)**

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	03/12/2022	ND	1.96	98.2	2.00	6.36	
Toluene*	<0.050	0.050	03/12/2022	ND	1.97	98.3	2.00	7.24	
Ethylbenzene*	<0.050	0.050	03/12/2022	ND	1.89	94.5	2.00	7.24	
Total Xylenes*	<0.150	0.150	03/12/2022	ND	5.88	98.0	6.00	7.39	
Total BTEX	<0.300	0.300	03/12/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	03/12/2022	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	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 112 % 66.9-136

Surrogate: 1-Chlorooctadecane 112 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	03/11/2022	Sampling Date:	03/10/2022
Reported:	03/14/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: W WALL @ 10-5 (H220990-09)**

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	03/11/2022	ND	2.04	102	2.00	3.42	
Toluene*	<0.050	0.050	03/11/2022	ND	2.05	102	2.00	3.58	
Ethylbenzene*	<0.050	0.050	03/11/2022	ND	1.98	99.1	2.00	2.86	
Total Xylenes*	<0.150	0.150	03/11/2022	ND	6.16	103	6.00	2.49	
Total BTEX	<0.300	0.300	03/11/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	03/12/2022	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	03/12/2022	ND	250	125	200	12.8	
DRO >C10-C28*	<10.0	10.0	03/12/2022	ND	221	111	200	1.33	
EXT DRO >C28-C36	<10.0	10.0	03/12/2022	ND					

Surrogate: 1-Chlorooctane 108 % 66.9-136

Surrogate: 1-Chlorooctadecane 107 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Notes and Definitions**

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

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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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: **BTA**  
Project Manager: **BTA**  
Address:  
City: State: Zip:  
Phone #: Fax #:  
Project #: Project Owner:  
Project Name:  
Project Location: **Chilo 3-4**  
Sampler Name: **Michael Gene**

BILL TO

ANALYSIS REQUEST

P.O. #: Company: **BTA**  
Attn: **Bob Hall**  
Address: City: State: Zip:  
Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	CL	TPIH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV					
H22099D	1 W wall @	X	1			X					3-8-22	1:35	X	X	X
	2 Bottom @7	X	1			X					3-8-22	3:53	X	X	X
	3 W wall @9	X	1			X					3-9-22	9:15	X	X	X
	4 N Bottom @14	X	1			X					3-9-22	11:40	X	X	X
	5 S wall @4	X	1			X					3-9-22	1:51	X	X	X
	6 W wall @15-3	X	1			X					3-10-22	11:30	X	X	X
	7 Bottom #2 @6	X	1			X					3-10-22	12:09	X	X	X
	8 W wall @ 10-4	X	1			X					3-10-22	1:07	X	X	X
	9 W wall @ 10-5	X	1			X					3-10-22	1:10	X	X	X

PLEASE NOTE: Lobby 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 analysis. 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: *[Signature]*  
Date: **3-11-22**  
Time: **12:05**  
Received By: *[Signature]*  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Phone Result:  Yes  No  Add'l Phone #:  
Fax Result:  Yes  No  Add'l Fax #:  
REMARKS: **Michael Alms @ Alms Oil Field Solutions.org**  
**Push! AX Seal**

Delivered By: (Circle One) **-2.30 @ C.O.S@**  
Sampler - UPS - Bus - Other: **-2.8 @ #113**  
Sample Condition: Cool  Intact   
Checked BY: (Initials) **YO**

Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



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

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May 10, 2022

MICHAEL ALVES

ALVES OILFIELD SOLUTIONS

2215 W BENDER

HOBBS, NM 88240

RE: BTA - CHISO 3-4

Enclosed are the results of analyses for samples received by the laboratory on 05/09/22 12:58.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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, flowing "C" and "K".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	05/09/2022	Sampling Date:	05/09/2022
Reported:	05/10/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: SP 1 @ 4' (H221944-01)**

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	05/10/2022	ND	2.14	107	2.00	6.63		
Toluene*	<0.050	0.050	05/10/2022	ND	2.10	105	2.00	6.83		
Ethylbenzene*	<0.050	0.050	05/10/2022	ND	2.06	103	2.00	7.61		
Total Xylenes*	<0.150	0.150	05/10/2022	ND	6.36	106	6.00	7.80		
Total BTEX	<0.300	0.300	05/10/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/10/2022	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	05/09/2022	ND	213	107	200	10.3		
DRO >C10-C28*	<10.0	10.0	05/09/2022	ND	196	98.1	200	14.5		
EXT DRO >C28-C36	<10.0	10.0	05/09/2022	ND						

Surrogate: 1-Chlorooctane 82.3 % 66.9-136

Surrogate: 1-Chlorooctadecane 84.6 % 59.5-142

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	05/09/2022	Sampling Date:	05/09/2022
Reported:	05/10/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: SP 2 @ 4' (H221944-02)**

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	05/10/2022	ND	2.14	107	2.00	6.63	
Toluene*	<0.050	0.050	05/10/2022	ND	2.10	105	2.00	6.83	
Ethylbenzene*	<0.050	0.050	05/10/2022	ND	2.06	103	2.00	7.61	
Total Xylenes*	<0.150	0.150	05/10/2022	ND	6.36	106	6.00	7.80	
Total BTEX	<0.300	0.300	05/10/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	05/10/2022	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	05/09/2022	ND	213	107	200	10.3	
DRO >C10-C28*	<10.0	10.0	05/09/2022	ND	196	98.1	200	14.5	
EXT DRO >C28-C36	<10.0	10.0	05/09/2022	ND					

Surrogate: 1-Chlorooctane 98.4 % 66.9-136

Surrogate: 1-Chlorooctadecane 102 % 59.5-142

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	05/09/2022	Sampling Date:	05/09/2022
Reported:	05/10/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BTA		

**Sample ID: COMP NORTH WEST (H221944-03)**

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	05/10/2022	ND	2.14	107	2.00	6.63	
Toluene*	<0.050	0.050	05/10/2022	ND	2.10	105	2.00	6.83	
Ethylbenzene*	<0.050	0.050	05/10/2022	ND	2.06	103	2.00	7.61	
Total Xylenes*	<0.150	0.150	05/10/2022	ND	6.36	106	6.00	7.80	
Total BTEX	<0.300	0.300	05/10/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>384</b>	16.0	05/10/2022	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	05/09/2022	ND	213	107	200	10.3	
DRO >C10-C28*	<10.0	10.0	05/09/2022	ND	196	98.1	200	14.5	
EXT DRO >C28-C36	<10.0	10.0	05/09/2022	ND					

Surrogate: 1-Chlorooctane 85.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 89.7 % 59.5-142

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

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

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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

**BILL TO**

**ANALYSIS REQUEST**

Company Name: <u>Alves Of Solutions</u> Project Manager: <u>Bob Hall</u>		P.O. #: _____ Company: <u>DTA</u>	
Address: _____ City: _____ State: _____ Zip: _____		Attn: _____ Address: _____ City: _____ State: _____ Zip: _____	
Phone #: _____ Fax #: _____ Project #: _____ Project Owner: _____		City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____	
Project Name: _____ Project Location: <u>Chico 3-4</u>		Matrix: <u>Ice</u>	
Sampler Name: <u>Haylee Richey</u>		PRESERV: _____ SAMPLING: _____	
FOR LAB USE ONLY			
Lab I.D. _____ <u>H221944</u>	Sample I.D. _____ <u>SP 1 @ 4'</u> <u>SP 2 @ 4'</u> <u>COMP North west</u>	(G)RAB OR (C)OMP: <u>G</u> # CONTAINERS: <u>1</u> GROUNDWATER: <u>1</u> WASTEWATER: <u>1</u> SOIL: <u>1</u> OIL: <u>1</u> SLUDGE: <u>1</u> OTHER: _____ ACID/BASE: _____ ICE / COOL: <u>1</u> OTHER: _____	DATE: <u>5-9-22</u> TIME: <u>12:49</u> <u>5-9-22</u> TIME: <u>12:49</u> <u>5-9-22</u> TIME: <u>12:49</u>
Relinquished By: <u>Haylee Richey</u> Date: <u>5-9-22</u> Time: <u>12:58</u>		Received By: <u>Michael Alves</u> Date: _____ Time: _____	
Delivered By: (Circle One) <u>3.32</u> C.O.S. Sample Condition: <u>Intact</u> Sampler - UPS - Bus - Other: <u>2.82</u> #13 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		CHECKED BY: _____ (Initials) Phone Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Fax Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: _____ Add'l Fax #: _____	
REMARKS: <u>Michael Alves @ alvesoilfield solutions .com</u> <u>1" Bush</u>			

Cardinal cannot warrant or hold responsible for any claim arising from the use of this form. Please see written agreement in FZEL 209 2276



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

---

June 09, 2022

MICHAEL ALVES

ALVES OILFIELD SOLUTIONS

2215 W BENDER

HOBBS, NM 88240

RE: BTA - CHISO 3-4

Enclosed are the results of analyses for samples received by the laboratory on 06/08/22 8:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](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.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 1 (H222417-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.04	102	2.00	1.90	
Toluene*	<0.050	0.050	06/08/2022	ND	2.03	101	2.00	2.20	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	1.90	94.9	2.00	1.80	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	5.90	98.4	6.00	1.87	
Total BTEX	<0.300	0.300	06/08/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 123 % 66.9-136

Surrogate: 1-Chlorooctadecane 126 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 2 (H222417-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.04	102	2.00	1.90	
Toluene*	<0.050	0.050	06/08/2022	ND	2.03	101	2.00	2.20	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	1.90	94.9	2.00	1.80	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	5.90	98.4	6.00	1.87	
Total BTEX	<0.300	0.300	06/08/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/09/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/09/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/09/2022	ND					

Surrogate: 1-Chlorooctane 89.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 96.8 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 3 (H222417-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.04	102	2.00	1.90	
Toluene*	<0.050	0.050	06/08/2022	ND	2.03	101	2.00	2.20	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	1.90	94.9	2.00	1.80	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	5.90	98.4	6.00	1.87	
Total BTEX	<0.300	0.300	06/08/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 115 % 66.9-136

Surrogate: 1-Chlorooctadecane 117 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 4 (H222417-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	QM-07
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 116 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 5 (H222417-05)**

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	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 114 % 66.9-136

Surrogate: 1-Chlorooctadecane 114 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 6 (H222417-06)**

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	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 118 % 66.9-136

Surrogate: 1-Chlorooctadecane 119 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 7 (H222417-07)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 124 % 66.9-136

Surrogate: 1-Chlorooctadecane 124 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 8 (H222417-08)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 124 % 66.9-136

Surrogate: 1-Chlorooctadecane 125 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 9 (H222417-09)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 123 % 66.9-136

Surrogate: 1-Chlorooctadecane 125 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 10 (H222417-10)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 109 % 66.9-136

Surrogate: 1-Chlorooctadecane 112 % 59.5-142

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CS 11 (H222417-11)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 120 % 66.9-136

Surrogate: 1-Chlorooctadecane 122 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 1 (H222417-12)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 122 % 66.9-136

Surrogate: 1-Chlorooctadecane 122 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 2 (H222417-13)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 69.9-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 115 % 66.9-136

Surrogate: 1-Chlorooctadecane 115 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 3 (H222417-14)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 122 % 66.9-136

Surrogate: 1-Chlorooctadecane 122 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 4 (H222417-15)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/08/2022	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 113 % 66.9-136

Surrogate: 1-Chlorooctadecane 114 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 5 (H222417-16)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/08/2022	ND	432	108	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	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 122 % 66.9-136

Surrogate: 1-Chlorooctadecane 124 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ALVES OILFIELD SOLUTIONS  
 MICHAEL ALVES  
 2215 W BENDER  
 HOBBS NM, 88240  
 Fax To:

Received:	06/08/2022	Sampling Date:	06/07/2022
Reported:	06/09/2022	Sampling Type:	Soil
Project Name:	BTA - CHISO 3-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA		

**Sample ID: CBS 6 (H222417-17)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2022	ND	2.22	111	2.00	3.99	
Toluene*	<0.050	0.050	06/08/2022	ND	2.19	109	2.00	4.80	
Ethylbenzene*	<0.050	0.050	06/08/2022	ND	2.12	106	2.00	3.39	
Total Xylenes*	<0.150	0.150	06/08/2022	ND	6.56	109	6.00	2.85	
Total BTEX	<0.300	0.300	06/08/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/08/2022	ND	432	108	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	06/08/2022	ND	201	100	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/08/2022	ND	204	102	200	2.12	
EXT DRO >C28-C36	<10.0	10.0	06/08/2022	ND					

Surrogate: 1-Chlorooctane 128 % 66.9-136

Surrogate: 1-Chlorooctadecane 129 % 59.5-142

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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.
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.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

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

Company Name: <b>AVES DIRECT SOLUTION</b>		P.O. #:	
Project Manager: <b>BOB HALL</b>		Company: <b>BTA</b>	
Address:		Attn:	
City:		Address:	
State:		City:	
Zip:		State:	
Phone #:		Zip:	
Fax #:		Phone #:	
Project #:		Fax #:	
Project Name:		Project Owner:	
Project Location: <b>CRISO 3-4</b>		Project Owner: <b>lea</b>	
Sampler Name: <b>Kayla Roney</b>		Phone #:	
FOR LAB USE ONLY		Fax #:	

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	CL	TR	HA	PR	ES	AN	AL	SI	RE
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :											
H222417																				
	CS 1		6 1						6/7	12:22	X									
	CS 2		6 1						6/7	12:24	X									
	CS 3		6 1						6/7	12:27	X									
	CS 4		6 1						6/7	12:29	X									
	CS 5		6 1						6/7	12:30	X									
	CS 6		6 1						6/7	12:31	X									
	CS 7		6 1						6/7	12:34	X									
	CS 8		6 1						6/7	12:35	X									
	CS 9		6 1						6/7	12:36	X									
	CS 10		6 1						6-7-24	12:37	X									

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Relinquished By: <b>Kayla Roney</b>	Date: <b>6/8/24</b>	Received By: <b>Shedrick Perry</b>	Date: <b>6/8/24</b>
Time: <b>0830</b>	Time: <b>0830</b>	Time: <b>0830</b>	Time: <b>0830</b>
Delivered By: (Circle One)	Observed Temp. °C: <b>-33°C</b>	Sample Condition	CHECKED BY: <b>SR</b>
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <b>-3.8°C</b>	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

REMARKS: **Michael Alves @alvesoilfield solutions.org**

Turnaround Time: **Standard**  **Rush**

Thermometer ID #113  Correction Factor -0.5°C

Bacteria (only)  Sample Condition

Cool Intact  Observed Temp. °C

Yes  No  Yes  No  Corrected Temp. °C

Verbal Result:  Yes  No  Add'l Phone #:

All Results are emailed. Please provide Email address:

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



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

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

Company Name: <b>Alves Oil Field Solutions</b> Project Manager: <b>Bob Hall</b>		P.O. #: Company: <b>BTA</b>	
Address: City: State: Zip:		Attn: Address: City: State: Zip:	
Project #: Project Owner:		City: State: Zip:	
Project Name:		State: Zip:	
Project Location: <b>Priso 3-4</b>		Phone #:	
Sampler Name: <b>Kayla Paddy</b>		Fax #:	
FOR LAB USE ONLY			
Lab I.D. <b>H222417</b>	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER MATRIX SOIL OIL SLUDGE OTHER :	PRESERV ACID/BASE: ICE / COOL OTHER :
11 <b>8:15</b> 12 <b>8:15</b> 13 14 15 16 17	CS 11 CBS 1 CBS 2 CBS 3 CBS 4 CBS 5 CBS 6	G G G G G G G	X X X X X X X
		DATE 6/7 6/7 6/7 6/7 6/7 6/7 6/7	TIME 12:37 12:47 12:50 12:52 12:53 12:55 12:58
		X X X X X X X	X X X X X X X

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Relinquished By: **Kayla Paddy** Date: **6/30** Time: **0830**

Received By: **Sted Riquery** Date: \_\_\_\_\_ Time: \_\_\_\_\_

Delivered By: (Circle One)  UPS - Bus - Other: \_\_\_\_\_

Observed Temp. °C: **3.3°C** Corrected Temp. °C: **-3.8°C**

Sample Condition:  Cool  Intact  Yes  No

Checked By: **[Signature]**

Turnaround Time: \_\_\_\_\_ Standard  Rush

Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition:  Cool  Intact  Yes  No

Observed Temp. °C: \_\_\_\_\_ Corrected Temp. °C: \_\_\_\_\_

REMARKS: **Michael.alves@alvesoilfield.com**

Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_

All Results are emailed. Please provide Email address: \_\_\_\_\_



# Appendix E

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RxSoil Field Screening Data

Chiso 14 State Floor Samples			
Date	Sample ID	Depth	CL
<b>24-Feb</b>	<b>B1</b>	<b>3FT</b>	<b>884</b>
<b>25-Feb</b>	<b>B1</b>	<b>4FT</b>	<b>144</b>
<b>28-Feb</b>	<b>B1</b>	<b>5FT</b>	<b>&gt;2500</b>
<b>28-Feb</b>	<b>B1</b>	<b>7FT</b>	<b>1256</b>
28-Feb	B1	9FT	356
24-Feb	B2	3FT	ND
<b>28-Feb</b>	<b>B2</b>	<b>4FT</b>	<b>1107</b>
28-Feb	B2	4.5 FT	252
<b>24-Feb</b>	<b>B3</b>	<b>3FT</b>	<b>1090</b>
<b>25-Feb</b>	<b>B3</b>	<b>4FT</b>	<b>&gt;2500</b>
<b>25-Feb</b>	<b>B3</b>	<b>5FT</b>	<b>1440</b>
25-Feb	B3	6FT	ND
28-Feb	B3	18FT	clean
<b>24-Feb</b>	<b>B4</b>	<b>3FT</b>	<b>1176</b>
<b>24-Feb</b>	<b>B4</b>	<b>4FT</b>	<b>1176</b>
24-Feb	B4	5FT	ND
<b>28-Feb</b>	<b>B4</b>	<b>7ft</b>	<b>&gt;2500</b>
24-Feb	B5	3FT	ND
<b>28-Feb</b>	<b>B5</b>	<b>4FT</b>	<b>1256</b>
28-Feb	B5	5FT	204
Chiso 14 State Side Wall Samples			
Date	Sample ID	Depth	CL
25-Feb	S1	SW	ND
<b>24-Feb</b>	<b>S2</b>	<b>SW</b>	<b>&gt;2500</b>
<b>25-Feb</b>	<b>S2.2</b>	<b>SW</b>	<b>&gt;2500</b>

Date	Sample ID	Depth	CL
24-Feb	B1	3FT	884
25-Feb	B1	4FT	144
28-Feb	B1	5FT	>2500
28-Feb	B1	7FT	1256
28-Feb	B1	9FT	356
24-Feb	B2	3FT	ND
28-Feb	B2	4FT	1107
28-Feb	B2	4.5 FT	252
24-Feb	B3	3FT	1090
25-Feb	B3	4FT	>2500
25-Feb	B3	5FT	1440
25-Feb	B3	6FT	ND
28-Feb	B3	18FT	clean
24-Feb	B4	3FT	1176
24-Feb	B4	4FT	1176
24-Feb	B4	5FT	ND
28-Feb	B4	7ft	>2500
3-Mar	B4	18ft	364
24-Feb	B5	3FT	ND
28-Feb	B5	4FT	1256
28-Feb	B5	5FT	204
2-Mar	B6	3FT	812
2-Mar	B7	3FT	1432
2-Mar	B8	3FT	>2500

Chiso 14 State Side Wall Samples

Date	Sample ID	Depth	CL
25-Feb	S1	SW	ND
24-Feb	S2	SW	>2500
25-Feb	S2.2	SW	>2500
2-Mar	S3	SW	>2500
2-Mar	S4	SW	>2500



Google Earth



## APPENDIX B

September 11, 2023, *Remediation Work Plan*

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September 8, 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  
Chiso 14 State Jet Pump and Excavation  
Incident Number nAPP2205837214  
Lea County, New Mexico**

To Whom It May Concern:

Ensolium, LLC (Ensolium), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Remediation Work Plan (RWP)* to document assessment, delineation, excavation, and soil sampling activities completed to date at the Chiso 14 State Jet Pump (Site). The purpose of the Site activities was to address impacts to soil resulting from a release of produced water at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, BTA is submitting this *RWP* for Incident Number nAPP2205837214, describing Site assessment, delineation, and excavation activities that have occurred to date and proposing additional delineation and excavation of residual total petroleum hydrocarbon (TPH) and chloride impacts in the immediate vicinity and underneath production equipment and flowlines to the maximum extent practicable (MEP).

**SITE DESCRIPTION AND RELEASE SUMMARY**

The Site is located in Unit P, Section 14, Township 22 South, Range 34 East, in Lea County, New Mexico (32.38511°, -103.43594°) and is associated with oil and gas exploration and production operations on New Mexico State Land Trust managed by the New Mexico State Land Office (NMSLO).

On February 22, 2022, a plug on a jet pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an active excavation associated with a previous release. The release included approximately 165 barrels (bbls) of produced water. A vacuum truck was immediately dispatched, which recovered approximately 70 bbls of produced water. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) through the online Notice of Release (NOR) portal on February 27, 2022, and followed up on a Release Notification Form C-141 (Form C-141) on March 8, 2022. The release was assigned Incident Number nAPP2205837214.

According to a *Remediation Workplan*, prepared by Tetra Tech, Inc. (Tetra Tech) and submitted to NMOCD on May 12, 2023, the prior excavation depths ranged between 3 feet and 9 feet below ground surface (bgs). Following the February 2022 release, the previous excavation was extended to depths ranging from 3 feet to 19 feet bgs between February 28, 2022, and June 7, 2022. Following excavation activities, a 20-mil poly liner was installed over the 19-foot excavation at a depth of 13 feet bgs. Due to the presence of the jet pump, Tetra Tech proposed vertically and horizontally delineating soil around the jet pump and collecting new confirmation soil samples in the excavated area. The May 2023 *Remediation Workplan* was approved by NMOCD on June 13, 2023, and can be viewed on NMOCD's website portal.

BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be less than 50 feet bgs based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well CP-1682-POD1 South 2, located approximately 0.13-miles south-southeast of the Site. The groundwater well has a reported depth to groundwater of 42 feet bgs and a total depth of 294 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

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, continuously flowing or significant watercourse, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- TPH: 100 mg/kg
- Chloride: 600 mg/kg

## CULTURAL RESOURCES SURVEYS

The excavation and liner installation were initiated prior to implementation of the Cultural Properties Protection Rule on December 1, 2022. The excavation occurred less than 30 feet from the edge of the well pad disturbance area and appears to be within the clearance buffer of the original siting. No additional cultural resource surveys were completed in connection with this release.

## EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June 8 and July 24, 2023, Ensolum personnel were at the Site to oversee additional confirmation sampling and excavation activities based on previous soil analytical results, field screening and visible observations documented in Tetra Tech's *Remediation Workplan*. Excavation activities were performed utilizing a track hoe and transport vehicles. To direct excavation activities, soil was screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. During excavation activities, the poly liner that was installed at 13 feet bgs was removed and is no longer present in the excavation. The excavation was completed to depths ranging from 1.5 feet to 19 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewall of the excavation extent. 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 soil samples FS01 and FS23 were collected from the floor of the excavation at depths ranging from 1.5 feet to 19 feet bgs. Confirmation soil samples SW01 and

BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

SW22 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 19 feet bgs. The confirmation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and 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 chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500.

Laboratory analytical results for all excavation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria except for the following floor and sidewall soil samples:

- Floor Soil Samples: FS18 and FS20 through FS23
- Sidewall Soil Samples: SW07, SW13 through SW15, SW21, and SW22

The confirmation floor and sidewall soil samples that exceeded the Closure Criteria are located within and around production equipment and pipelines on pad. Excavation of impacted soil was completed to the maximum extent practicable (MEP) without compromising the integrity of the equipment and/or pipelines as well as the safety of personnel onsite. The excavation extent and excavation soil sample locations are presented on Figure 2. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix C.

The excavation areas measured approximately 4,462 square feet in areal extent. A total of approximately 1,195 cubic yards of impacted soil were removed during all excavation activities. The impacted soil was transported and properly disposed of at the R360 Environmental Solutions in Hobbs, New Mexico.

## DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Since all impacted soil could not safely be excavated, areas around production equipment and pipelines needed to be fully delineated. On July 6, 2023, Ensolum returned to the Site to collect delineation soil samples. Delineation soil samples H-1 through H-6 were collected outside of the release extent, at a depth of 0.5 feet bgs, to define the lateral extent of the release. Delineation soil samples AH-1 through AH-6 were collected around the jet pump and east of the proposed deferral area to depths ranging from 1-foot to 3.5 feet bgs to define the vertical extent of impacts. All delineation soil samples were collected via hand auger and field screened for VOCs and chloride. The locations of delineation soil samples are depicted on Figure 3. Lithologic / Soil Sampling Logs are included in Appendix D describing soil encountered for each soil boring and field screening results.

Laboratory analytical results indicated all COC concentrations in lateral delineation soil samples (H-1 through H-6) were compliant with the Site Closure Criteria, confirming the lateral extent of the release to the north, east, and south of the jet pump. The chloride concentration in vertical delineation soil samples AH-2 through AH-5 exceeded the Closure Criteria at their highest field screening interval depth and terminus depths ranging from 2 feet to 3.5 feet bgs; however, advancement to greater depths was limited by refusal while utilizing a hand auger. Laboratory analytical results for vertical delineation soil sample AH-6 indicated the concentration of TPH exceeded the Closure Criteria at 2 feet bgs. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix C.

BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

## RECLAMATION PLAN

Portions of the release occurred off pad in the pasture and as such, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the off pad area that was impacted by the release per 19.15.29.13.D (1)) NMAC for the top 4 feet of areas that will be reclaimed following remediation. The following Reclamation Plan addresses reclamation of the off-pad area:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. Approximately 1 foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;
- Soil in the vicinity of the release include: poorly graded sand, fine to medium-grained with trace silt and clay;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed by the NMSLO to meet reclamation standards for this region, which will be: Sandy Loam (SL) seed mixture as described in the NMSLO *Revegetation Guidelines Handbook for Southeastern New Mexico*, dated 2018;
- The seed mixture will be distributed with either a push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding method(s);
- Application of the seed mixutre 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;
- If necessary, erosion control management will potentially include:
  - The placement of waddles 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 completed upon approval of this *Closure Request* and prior to reseeding efforts;
- Seeding is anticipated to be completed in the Fall when temperatures and precipitation is 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 adhered to 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 Spring/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;

Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.

BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

## PROPOSED REMEDIAL ACTIONS

Site assessment, excavation, and delineation activities were conducted at the Site to address impacted soil resulting from the February 2022 release of produced water into an existing excavation for an unrelated release. Excavation of impacted soil west of the jet pump and away from active production equipment and pipelines was completed to the MEP; however, residual TPH and chloride-impacted soil remains under and around projection equipment, pipelines, and the jet pump itself. Residual impacts have been defined laterally to the west through the excavation and to the north, east, and south from lateral delineation soil samples H-1 through H-6. The vertical extent of soil impacts appears to extend to depths ranging from 4 feet to 9 feet bgs. The areal extent of residual soil impacts is approximately 2,750 square feet, as depicted on Figure 4. Approximately 662 cubic yards of soil has been left in place due to the presence of the jet pump; however, the jet pump as recently been removed and as such, BTA proposes the following remedial actions:

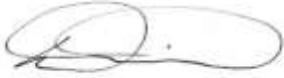
- Complete vertical delineation in the vicinity of the jet pump to meet the Site Closure Criteria;
- Continue excavation of residually impacted soil beneath the former jet pump and to the MEP around active production equipment and lines;
- Complete confirmation sampling of the floor and sidewalls of the expanded excavation area on a frequency of every 200 square feet. Soil samples will be submitted for laboratory analysis of BTEX, TPH, and chloride; and
- Prepare a report detailing the actions described above within 90 days of receiving approval from NMOCD of this RWP.

Excavation of impacted soil has been completed to the MEP to date and supports mitigation of impacts at this Site. With the jet pump removed, BTA believes the remedial actions completed to-date and proposed in this RWP are protective of human health, the environment, and groundwater. As such, BTA respectfully requests approval of this RWP for remedial actions associated with Incident Number nAPP2205837214. Notifications submitted to the NMOCD are included in Appendix E and the final Form C-141 is included in Appendix F.

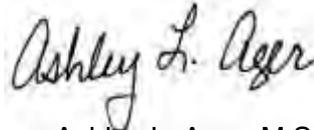
BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

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

Sincerely,  
**Ensolum, LLC**



Daniel R. Moir, PG  
Senior Managing Geologist



Ashley L. Ager, M.S., PG  
Principal

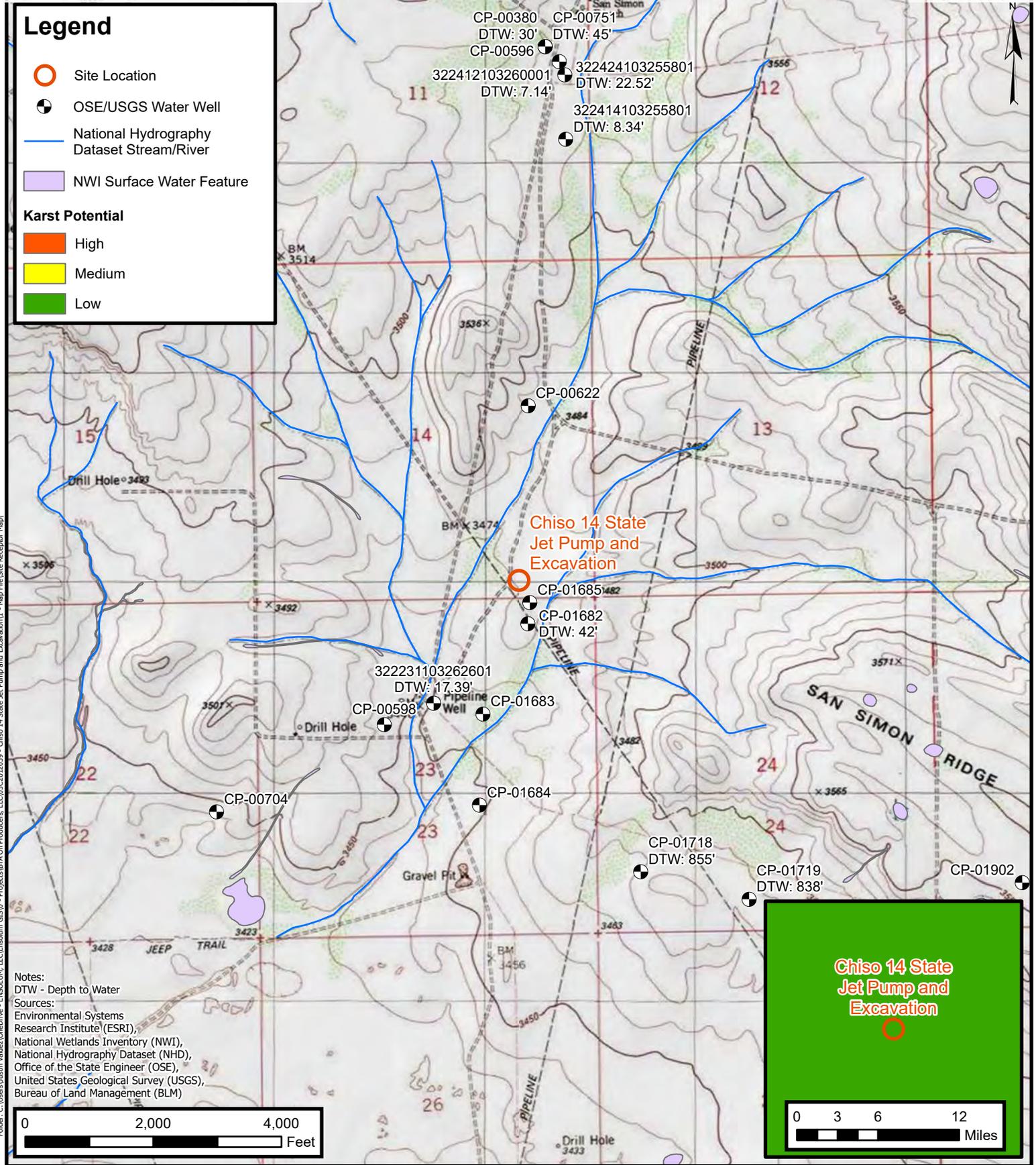
cc: Kelton Beard, BTA  
New Mexico State Land Office  
Merchant Livestock Company

Appendices:

- Figure 1 Site Receptor Map
- Figure 2 Excavation Soil Sample Locations
- Figure 3 Delineation Soil Sample Locations
- Table 1 Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix D Lithologic/Soil Sampling Logs
- Appendix E NMOCD Notifications
- Appendix F Final C-141



Figures



**Site Receptor Map**  
 BTA Oil Producers, LLC  
 Chiso 14 State Jet Pump and Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

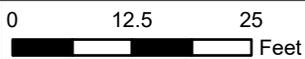
**FIGURE**  
**1**

**Legend**

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Exceeding Closure Criteria
- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Excavation Floor Sample with Concentrations Exceeding Closure Criteria
- Excavation Sidewall Sample with Concentrations Exceeding Closure Criteria
- Excavation Extent



Notes:  
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



# Excavation Soil Sample Locations

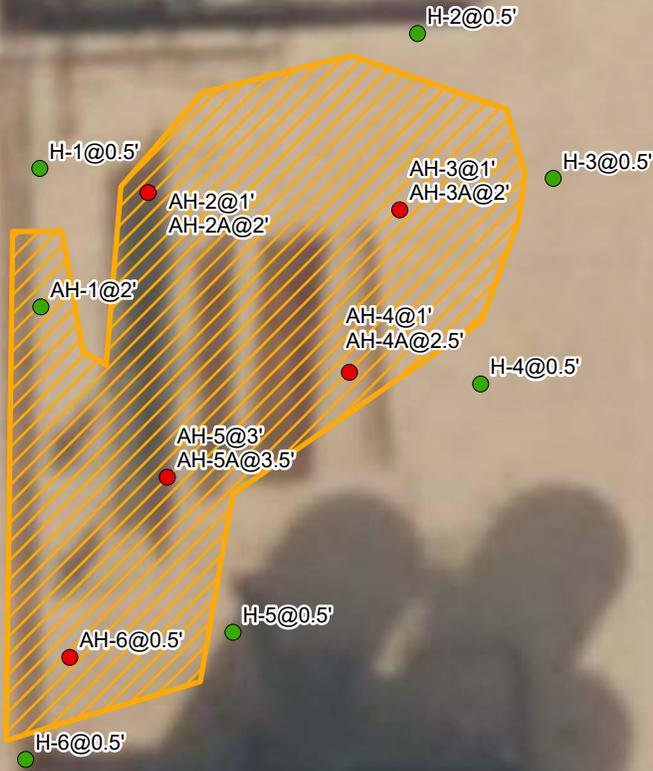
BTA Oil Producers, LLC  
 Chiso 14 State Jet Pump and Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

## FIGURE

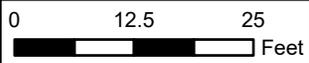
# 2

### Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Exceeding Closure Criteria
- Release Extent



Notes:  
 Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



## Delineation Soil Sample Locations

BTA Oil Producers, LLC  
 Chiso 14 State Jet Pump Excavation  
 Incident Number: nAPP2205837214  
 Unit P, Sec 14, T22S, R34E  
 Lea County, New Mexico

FIGURE

4



Table



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Chiso 14 State Jet Pump and Excavation**  
**BTA Oil Producers, LLC**  
**Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
<b>Confirmation Soil Samples</b>										
FS01	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS02	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS03	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS04	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS05	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
<del>FS06</del>	<del>06/13/2023</del>	<del>7</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>860</del>	<del>204</del>	<del>860</del>	<del>1,064</del>	<del>32.0</del>
FS06A	07/12/2023	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS07	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS08	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS09	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS10	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS11	06/13/2023	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS12	06/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS13	06/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS14	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS15	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS16	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
FS17	06/13/2023	19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS18	06/13/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>10,400</b>
FS19	06/13/2023	1.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS20	06/13/2023	1.5	<0.050	<0.300	<10.0	359	97.0	359	<b>456</b>	400
FS21	06/13/2023	1.5	<0.050	<0.300	<10.0	25.6	<10.0	25.6	25.6	<b>736</b>
FS22	07/27/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>7,330</b>
FS23	07/24/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,170</b>



**TABLE 1**  
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**Chiso 14 State Jet Pump and Excavation**  
**BTA Oil Producers, LLC**  
**Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
<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>NE</b>	<b>100</b>	<b>600</b>
SW01	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW02	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW03	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW04	06/13/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW05	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW06	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW07	06/12/2023	0-4	<0.050	<0.300	<10.0	176	38.6	176	<b>215</b>	<b>1,340</b>
SW08	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW09	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SW10	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW11	06/13/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW12	06/12/2023	4-7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW13	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,120</b>
SW14	06/12/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,920</b>
SW15	06/12/2023	4-9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>688</b>
SW16	06/12/2023	14-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW17	06/12/2023	9-14	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW18	06/12/2023	4-9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW19	06/12/2023	14-19	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW20	06/12/2023	9-14	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW21	07/31/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>18,000</b>
SW22	07/31/2023	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>11,600</b>



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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>NE</b>	<b>100</b>	<b>600</b>
<b>Delineation Soil Samples</b>										
AH-1	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
AH-2	07/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>9,600</b>
AH-2A	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>3,440</b>
AH-3	07/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,520</b>
AH-3A	07/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,080</b>
AH-4	07/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>5,840</b>
AH-4A	07/06/2023	2.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,440</b>
AH-5	07/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>6,130</b>
AH-5A	07/06/2023	3.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,560</b>
AH-6	07/06/2023	2	<0.050	<0.300	<10.0	115	20.8	115	<b>136</b>	96.0
H-1	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
H-2	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-3	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-4	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-5	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
H-6	07/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

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  
Well Log Record

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# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 SEP 19 10:51 AM  
 STATE ENGINEER  
 RECORDS

<b>1. GENERAL AND WELL LOCATION</b>	OSE POD NO. (WELL NO.) CP-1682-POD1 South 2		WELL TAG ID NO. 2062A		OSE FILE NO(S) CP-1682	
	WELL OWNER NAME(S) Merchant Livestock Company/Glenn's Water Well Service, Inc.				PHONE (OPTIONAL) 575-398-2424	
	WELL OWNER MAILING ADDRESS PO Box 692				CITY Tatum	STATE ZIP NM 88267
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 22	SECONDS 59.66	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
LONGITUDE -103 26 7.87 W DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW1/4 NE1/4 NE1/4 Section 23, Township 22 South, Range 34 East on Merchant Livestock Company Land						

<b>2. DRILLING &amp; CASING INFORMATION</b>	LICENSE NO. WD 421		NAME OF LICENSED DRILLER Corky Glenn			NAME OF WELL DRILLING COMPANY Glenn's Water Well Service, Inc.		
	DRILLING STARTED 09/10/19	DRILLING ENDED 09/13/19	DEPTH OF COMPLETED WELL (FT) 294	BORE HOLE DEPTH (FT) 294	DEPTH WATER FIRST ENCOUNTERED (FT) 42			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 31		
	DRILLING FLUID: <input type="checkbox"/> AIR <input checked="" type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	22.5'	20"	Steel 12 3/4" OD	Plain End	12.25	.25	---
	0	294'	20"	Steel Casing 8 5/8" / 8.625" OD	Plain End	8.125	.25	1/8"
				Bottom 252 Perforated				

<b>3. ANNULAR MATERIAL</b>	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	22.5'	20"	Cemented Redi Mix	Fill to Top	Top Pour
	0	294'	20"	3/8" Veilmore Gravel	18.52 CY	Top Pour

FOR OSE INTERNAL USE

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

FILE NO. CP-1682	POD NO. 1	TRN NO. 632044
LOCATION 212 Sec 23 T22S R 34E	WELL TAG ID NO. 2062A	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO				
	0	6	6	Soil	Y ✓ N	
	6	9	3	Soil & Sand	Y ✓ N	
	9	16	7	Caliche	Y ✓ N	
	16	20	4	Clay & Sand	Y ✓ N	
	20	42	22	Red Clay	Y ✓ N	
	42	56	14	Brown Sandrock	✓ Y N	5.00
	56	63	7	Red Clay	Y ✓ N	
	63	68	5	White & Green Clay	Y ✓ N	
	68	92	24	Brown Sandrock	✓ Y N	9.00
	92	122	30	Red Clay	Y ✓ N	
	122	128	6	Brown Shale	Y ✓ N	
	128	165	37	Red Clay with Stringers of Brown Sandrock	Y ✓ N	
	165	187	22	Brown Shale	Y ✓ N	
	187	225	38	Red Clay & Red Shale	Y ✓ N	
	225	242	17	Brown Shale	Y ✓ N	
	242	274	32	Blue Sandrock & Shale	✓ Y N	1.00
	274	294	20	Red Shale	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input checked="" type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 15.00	

5. TEST, RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Travis Glenn License # 1719 (Glenn's Water Well Service, Inc.)		

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME	Corky Glenn _____ DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. CP-1682	POD NO. 1	TRN NO. 632044	
LOCATION 212 Sec 23 T22S R34E	WELL TAG ID NO. 2062A	PAGE 2 OF 2	



## APPENDIX B

### Photographic Log

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## APPENDIX D

### Lithologic / Soil Sampling Logs

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								Sample Name: AH-1	Date: 7/6/2023
								Site Name: Chiso 14 State Jet Pump	
								Incident Number: nAPP2205837214	
								Job Number: 03C2012059	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Logged By: MR	Method: Hand Auger
Coordinates: 32.385084, -103.435850								Hole Diameter: 4"	Total Depth: 2'
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
						0		0-1.5' bgs PREVIOUSLY EXCAVATED	
						1			
M	280	0.7	N	AH-1	2	2	SP	1.5-2' SAND with trace silt, Medium to dark brown, medium grained, poorly sorted, no stain/odor, moist.	
						TD		Total Depth @ 2' bgs; auger refusal	

					Sample Name: AH-2		Date: 7/6/2023					
					Site Name: Chiso 14 State Jet Pump				Incident Number: nAPP2205837214			
					Job Number: 03C2012059				Logged By: MR		Method: Hand Auger	
					Coordinates: 32.385116, -103.435813				Hole Diameter: 4"		Total Depth: 2'	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>												
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. A 40% error factor is included in all chloride screenings.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions				
M	14,476	3.2	N	AH-2	1	1	SP	0-1' CALICHE, red/ brown, poorly sorted, sub-rounded grains, medium grained, no stain/odor, moist. 1-2' SAND with trace silt, dark brown, poorly sorted, medium to fine grained, no stain/odor, moist.				
M	3,589.6	1.3	N	AH-2A	2	2						
						TD		Total Depth @ 2' bgs; auger refusal				

					Sample Name: AH-3		Date: 7/6/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR		Method: Hand Auger	
Coordinates: 32.385110, -103.435728					Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	2,872.8	2.6	N	AH-3	1	1	SP	1-2' SAND with trace silt, dark to medium brown, poorly sorted, medium grained, no stain/odor, moist.
M	2,178.4	1.1	N	AH-3A	2	2		
						TD		Total Depth @ 2' bgs; auger refusal

					Sample Name: AH-4		Date: 7/6/2023			
					Site Name: Chiso 14 State Jet Pump					
					Incident Number: nAPP2205837214					
					Job Number: 03C2012059					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR		Method: Hand Auger			
Coordinates: 32.385064, -103.435746					Hole Diameter: 4"		Total Depth: 2.5'			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	5,964	1.3	N	AH-4	1	1	SP	0-1' CALICHE, red/ brown, poorly sorted, sub-rounded grains, medium grained, no stain/odor, moist.		
M	1,036	0.3	N			2		1-2' SAND with trace silt, dark brown, poorly sorted, medium to fine grained, no stain/odor, moist.		
M	1,215.2	0.9	N	AH-4A	2.5			2.5' SAA, medium brown		
						TD		Total Depth @ 2.5' bgs; auger refusal		

					Sample Name: AH-5		Date: 7/6/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR		Method: Hand Auger	
Coordinates: 32.385034, -103.435808					Hole Diameter: 4"		Total Depth: 3.5'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		0-1.5' bgs PREVIOUSLY EXCAVATED
						1		
M	11,110.4	2.3	N			2	SP-SM	1.5-2.5' SAND with silt, dark brown, medium to fine grained, poorly sorted, no stain/ odor, moist.
M	12,986.4	0.6	N	AH-5	3	3	SP-SC	2.5-3.5' SAND with clay, medium brown/red, fine grained, poorly sorted, no stain/odor, moist.
M	2,329.60	1.5	N	AH-5A	3.5			
						TD		Total Depth @ 3.5' bgs; auger refusal

								Sample Name: AH-6		Date: 7/6/2023					
								Site Name: Chiso 14 State Jet Pump				Incident Number: nAPP2205837214			
								Job Number: 03C2012059				Logged By: MR		Method: Hand Auger	
								Coordinates: 32.384983, -103.435842				Hole Diameter: 4"		Total Depth: 2'	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b> 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. A 40% error factor is included in all chloride screenings.															
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions							
						0		0-1.5' bgs PREVIOUSLY EXCAVATED							
						1									
M	280	26.7	N	AH-6	2	2	SP-SC	1.5-2' SAND with clay, dark brown, fine grained, poorly sorted, odorous, no stain, moist.							
						TD		Total Depth @ 2' bgs; auger refusal							



## APPENDIX E

### NMOCD Correspondance

---

**Dan Moir**

---

**From:** Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>  
**Sent:** Friday, June 2, 2023 11:55 PM  
**To:** Hadlie Green; Enviro, OCD, EMNRD  
**Cc:** Tacoma Morrissey; Peter Van Patten; Kelton Beard; Nathan Sirgo  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 06/05/2023

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

Received.

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

**Mike Buchanan** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
8801 Horizon Blvd. NE | Albuquerque, NM 87113  
| [michael.buchanan@emnrd.nm.gov](mailto:michael.buchanan@emnrd.nm.gov)  
<http://www.emnrd.nm.gov/oed>



---

**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Friday, June 2, 2023 9:25 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Peter Van Patten <pvanpatten@ensolum.com>; Kelton Beard <KBeard@btaoil.com>; Nathan Sirgo <nsirgo@btaoil.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 06/05/2023

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 June 5, 2023.

- Harroun East Tank Battery / nAPP2202845563
  - Sampling Date: 6/5/2023 @ 9:00 AM MST
- Vaca Draw 9418 JV-P 001 / nCH1835540209
  - Sampling Date: 6/6/2023 @ 9:00 AM MST
- Carrasco 14-1H / nAPP2313656375
  - Sampling Date: 6/6/2023 @ 9:00 AM MST
- Chiso 14 State Jet Pump Excavation / nAPP2205837214

- Sampling Date: 6/5/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 

**Dan Moir**

---

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Friday, June 9, 2023 4:22 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 06/12/2023

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

Hadlie,

Please be aware that 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.

JH

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



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**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Thursday, June 8, 2023 9:14 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beaird <KBeaird@btaoil.com>; Nathan Sirgo <nsirgo@btaoil.com>; Peter Van Patten <pvanpatten@ensolum.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 06/12/2023

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 June 12, 2023.

- Chiso 14 State Jet Pump Excavation / nAPP2205837214
  - Sampling Date: 6/12-13/2023 @ 9:00 AM MST
- Chiso 14 State 8711 #003H Wellhead / nAB1917652490
  - Sampling Date: 6/14-15/2023 @ 9:00 AM MST
- Chiso 14 State 8711 Flowline / nRM2034960665

- Sampling Date: 6/14-15/2023 @ 9:00 AM MST
- Mesa 30 31 Tank Battery / nAPP2106930621
  - Sampling Date: 6/14/2023 @ 9:00 AM MST
- Rojo 10-13/34-37 / nAPP2313055442
  - Sampling Date: 6/15-16/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 

**Dan Moir**

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**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Thursday, June 29, 2023 10:48 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 07/3/2023

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

Hadlie,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

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



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**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Thursday, June 29, 2023 8:18 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beaird <KBeaird@btaoil.com>; Peter Van Patten <pvanpatten@ensolum.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 07/3/2023

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 July 3, 2023.

- Vacuum SWD H 35 Pipeline / nAPP2313058428
  - Sampling Date: 7/5/2023 @ 9:00 AM MST
- Chiso 14 State Jet Pump Excavation / nAPP2205837214
  - Sampling Date: 7/6/2023 @ 9:00 AM MST
- Mesa B #25 / nAPP2112744758
  - Sampling Date: 7/6-7/2023 @ 9:00 AM MST

- Mesa #16H Flowline / nAPP2123156473
  - Sampling Date: 7/7/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 

**Dan Moir**

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**From:** Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>  
**Sent:** Wednesday, July 19, 2023 10:52 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 07/24/2023

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

Good afternoon Hadlie,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

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>  
**Sent:** Wednesday, July 19, 2023 1:36 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beard <KBeard@btaoil.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 07/24/2023

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 July 24, 2023.

- Chiso 14 State Jet Pump and Excavation / nAPP2205837214
  - Sampling Date: 7/25-26/2023 @ 9:00 AM MST
- Mesa #2H Tank Battery / NRM2026945362
  - Sampling Date: 7/27/2023 @ 9:00 AM MST
- Mesa B #2 Tank Battery / nAPP2113973789
  - Sampling Date: 7/28/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 



APPENDIX F

Final C-141

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

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

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

Incident ID	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2205837214
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.38511 Longitude: -103.43594

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chiso 14 State Jet Pump and Excavation	Site Type: Tank Battery
Date Release Discovered: 2/26/2022	API# (if applicable) Nearest well:

Unit Letter	Section	Township	Range	County
P	14	22S	34E	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) 165 BBL	Volume Recovered (bbls) 70 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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

Jet Pump Failure.

A plug on the manifold of a Jet Pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an active excavation being conducted to remove previously contaminated soil. The volume of recovered water was taken from the excavation. The estimate of the volume of water released was calculated from tank gauge data (attached).

Form C-141

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

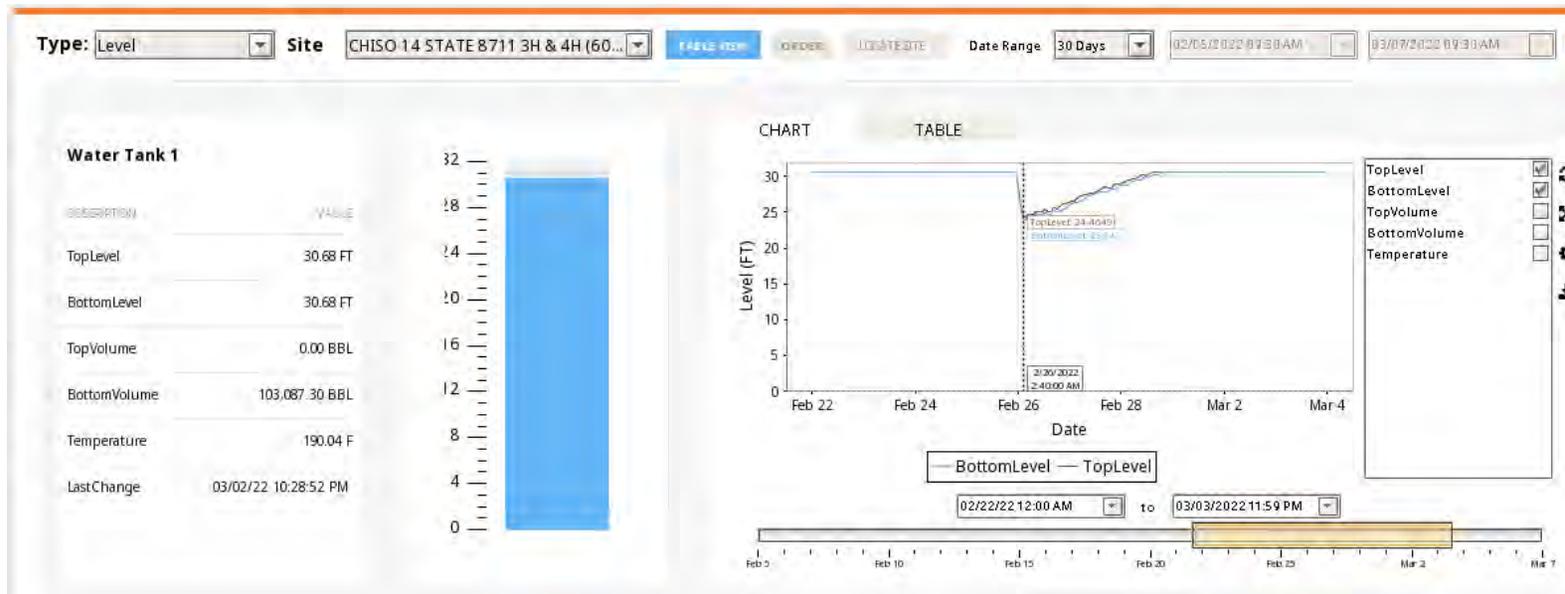
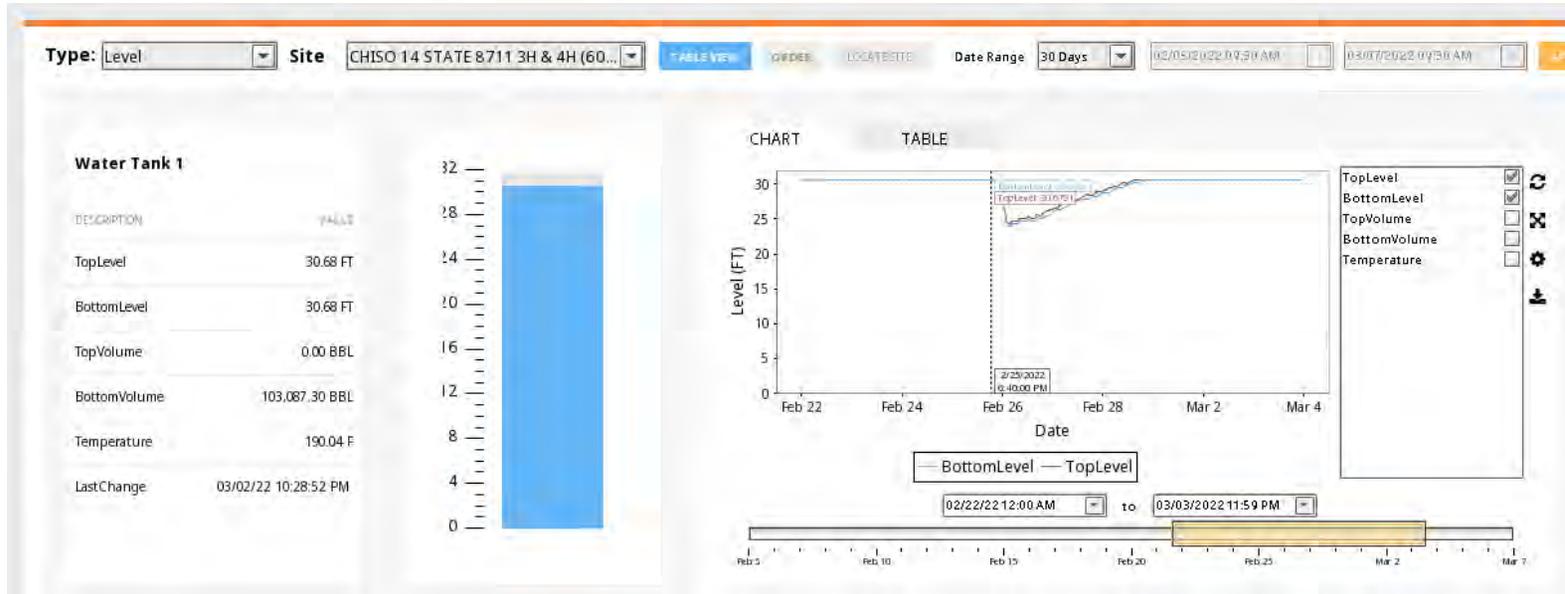
Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  The volume of the release exceeds 25 BBL.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by filing a Notice of Release (NOR) on the NMOCD Permitting website on 2/27/2022. The Incident ID listed above was assigned after the NOR was acknowledged by the NMOCD.	

### 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: <b>Bob Hall</b> Title: <b>Environmental Manager</b>  Signature: <u></u> Date: <b>3/8/2022</b>  email: <b>bhall@btaoil.com</b> Telephone: <b>432-682-3753</b>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

### Chiso 14 State Water Tank Gauge – 2/26/2022



Incident ID	nAPP2205837214
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	42 (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 checked="" type="checkbox"/> Yes <input 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.

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nAPP2205837214
District RP	
Facility ID	
Application ID	

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

Printed Name: Kelton Beaird Title: Environmental Manager

Signature:  Date: 9/6/2023

email: KBeaird@btaoil.com Telephone: 432-312-2203

**OCD Only**

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

Incident ID	nAPP2205837214
District RP	
Facility ID	
Application ID	

## 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 Beard Title: Environmental Manager  
 Signature:  Date: 9/6/2023  
 email: KBeard@btaoil.com Telephone: 432-312-2203

**OCD Only**

Received by: Shelly Wells Date: 9/11/2023

- Approved     Approved with Attached Conditions of Approval     Denied     Deferral Approved

Signature:  Date: 11/17/2024

**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**

CONDITIONS

Action 263757

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 263757
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	Remediation plan approved as written. Remediation Due date updated to February 15, 2024 to submits its appropriate or final closure report.	11/17/2023



## APPENDIX C

### Photographic Log

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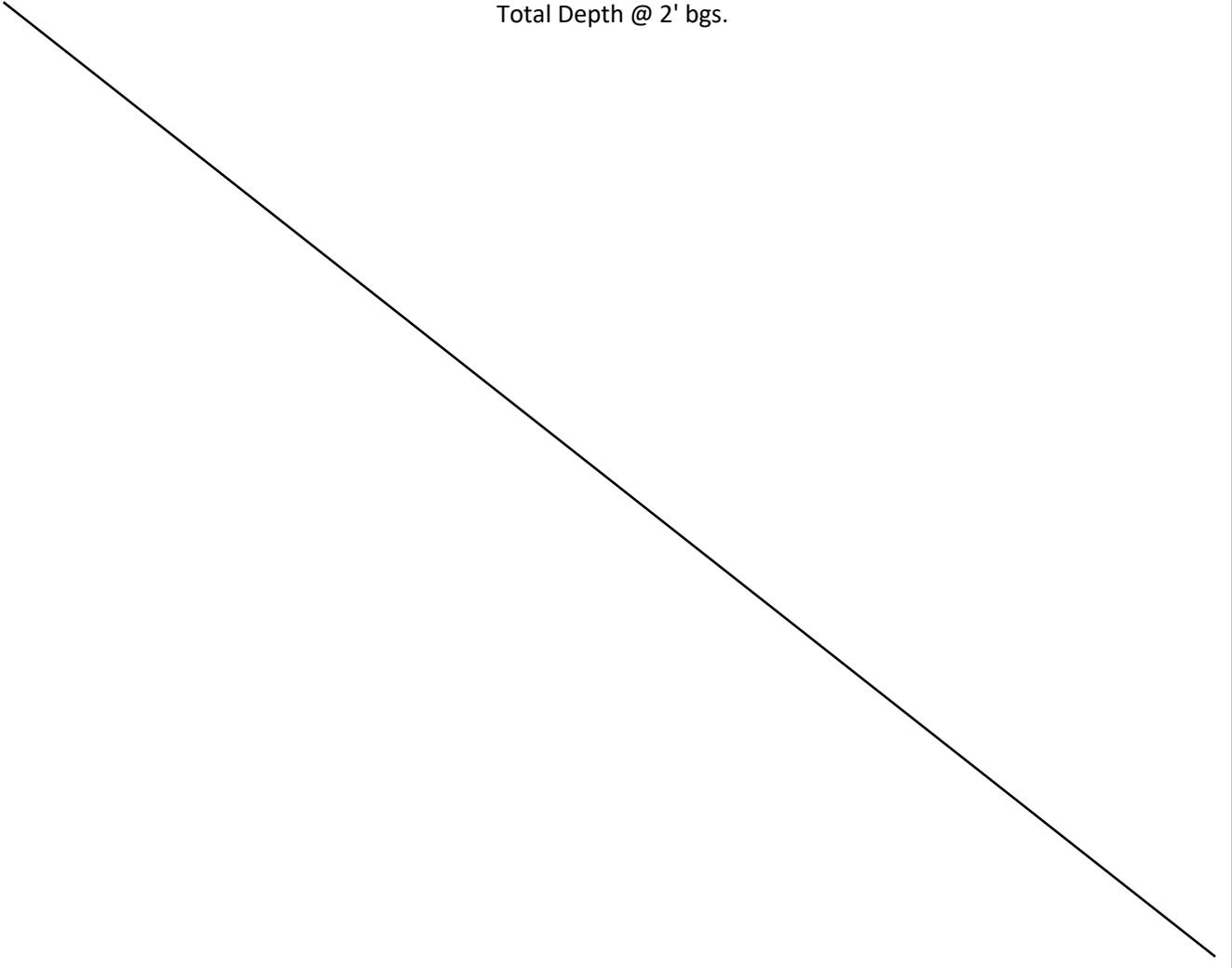




## APPENDIX D

### Lithologic / Soil Sampling Logs

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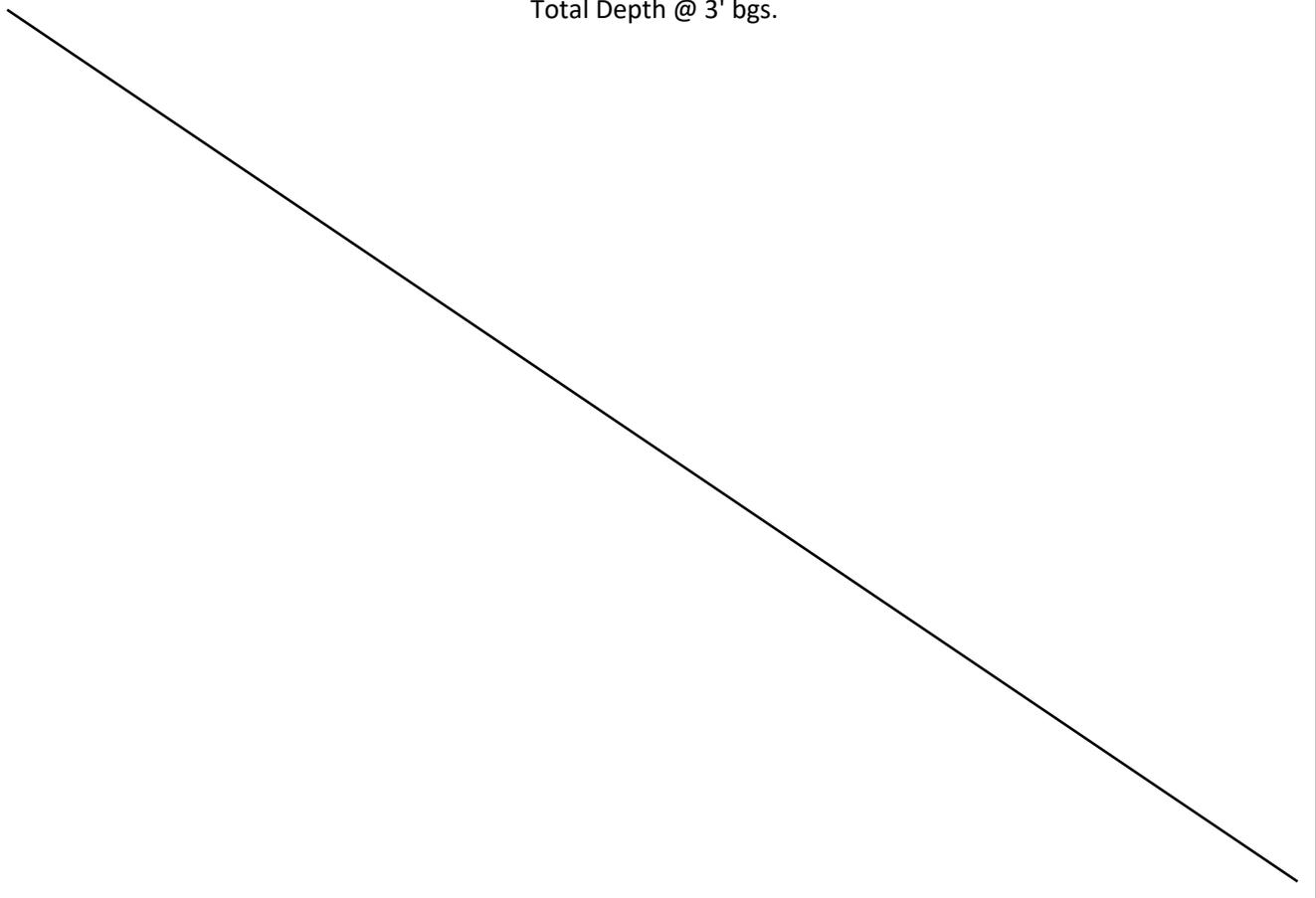
					Sample Name: AH-1		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger/Backhoe	
Coordinates: 32.385084, -103.435850					Hole Diameter: 3.5"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride calculations completed with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		0-1.5' bgs PREVIOUSLY EXCAVATED
						1		
M	280	0.7	N	AH-1	2	2	SP	1.5-2' SAND with trace silt, Medium to dark brown, medium grained, poorly sorted, no stain/odor, moist.
Total Depth @ 2' bgs.								
								

					Sample Name: AH-2		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger/Bakhoe	
Coordinates: 32.385116, -103.435813					Hole Diameter: 3.5"		Total Depth: 6'	
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. All chloride calculations completed with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	14,476	3.2	N	AH-2	1	0	CCHE	0-1' CALICHE, red/ brown, poorly sorted, sub-rounded grains, medium grained, no stain/odor, moist.
M	3,589.6	1.3	N	AH-2A	2	1	SP	1-2' SAND with trace silt, dark brown, poorly sorted, medium to fine grained, no stain/odor, moist.
M	7,392	0	N	AH-2B	3	2	SW	Sand. Brown, very fine to fine grained, well graded, no stain/odor, moist.
M	6,300	0	N		4	3	CCHE	Caliche, trace sand.
M	5,365	0	N		5	4		
M	<174	0	N	AH-2C	6	5		
Total Depth @ 6' bgs.								

					Sample Name: AH-3		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger/Backhoe	
Coordinates: 32.385110, -103.435728					Hole Diameter: 3.5"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride calculations completed with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	2,872.8	2.6	N	AH-3	1	0	CCHE	0-1' CALICHE, red/ brown, poorly sorted, sub-rounded grains, medium grained, no stain/odor, moist.
M	2,178.4	1.1	N	AH-3A	2	1	SP	1-2' SAND with trace silt, dark to medium brown, poorly sorted, medium grained, no stain/odor, moist.
M	1,176	0	N	AH-3B	3	2		
M	<174	0	M	AH-3C	4	3	CCHE	Caliche, trace sand. Sand, brown, very fine to fine grained, no stain/no odor, moist.
						4		
Total Depth @ 4' bgs.								

					Sample Name: AH-4		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger/Backhoe	
Coordinates: 32.385064, -103.435746					Hole Diameter: 3.5"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. A 40% error factor is included in all chloride screenings.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	5,964	1.3	N	AH-4	1	1	CCHE	0-1' CALICHE, red/ brown, poorly sorted, sub-rounded grains, medium grained, no stain/odor, moist.
M	1,036	0.3	N	AH-4A	2	2	SP	1-2' SAND with trace silt, dark brown, poorly sorted, medium to fine grained, no stain/odor, moist.  2.5' SAA, medium brown
M	1,215.2	0.9	N		2.5	2.5		
M	510	0	N		3	3		
M	<174	0	N	AH-4B	4	4	CCHE	Caliche, trace sand.
Total Depth @ 4' bgs.								

					Sample Name: AH-5		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger/Backhoe	
Coordinates: 32.385034, -103.435808					Hole Diameter: 3.5"		Total Depth: 3.5'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride calculations completed with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		0-1.5' bgs PREVIOUSLY EXCAVATED
						1		
M	11,110.4	2.3	N			2	SP-SM	1.5-2.5' SAND with silt, dark brown, medium to fine grained, poorly sorted, no stain/ odor, moist.
						3		
M	12,986.4	0.6	N	AH-5	3	3		2.5-3.5' SAND with clay, medium brown/red, fine grained, poorly sorted, no stain/odor, moist.
M	2,329.60	1.5	N	AH-5A	3.5			
M	1,579	0	N	AH-5B	4	4		
						5		
M	700	0	N		5	5		
						6		
M	302	0	N	AH-5C	6	6	CCHE	Caliche/Sand mixture.
Total Depth @ 6' bgs.								

					Sample Name: AH-6		Date: 7/6/2023 & 9/14/2023	
					Site Name: Chiso 14 State Jet Pump			
					Incident Number: nAPP2205837214			
					Job Number: 03C2012059			
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: MR/MO		Method: Hand Auger & Backho	
Coordinates: 32.384983, -103.435842					Hole Diameter: 3.5"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. All chloride calculations completed with a +40% correction factor.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		0-1.5' bgs PREVIOUSLY EXCAVATED
						1		
M	280	26.7	N	AH-6	2	2	SP-SC	1.5-2' SAND with clay, dark brown, fine grained, poorly sorted, odorous, no stain, moist.
M	258	0	N	AH-6A	3	3		
Total Depth @ 3' bgs.								
								



## APPENDIX E

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

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

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July 17, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 12:30.

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

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:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 3B 3' (H233555-01)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	144	16.0	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 4B 3.5' (H233555-02)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	80.0	16.0	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.9 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 5B 4.5' (H233555-03)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	336	16.0	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 91.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 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

**Notes and Definitions**

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

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Celey D. Keene, Lab Director/Quality Manager



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

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

Company Name: Ensolum, LLC

**BILL TO**

ANALYSIS REQUEST

Project Manager: *Healio Green*

P.O. #:

Address: *3122 Nat'l Parks Hwy*

Company: *BTA Oil*

City: *Carlsbad* State: *NM* Zip: *88220*

Attn: *Keaton Beard*

Phone #: *432.557.8895* Fax #:

Address: *104 S. Peers St*

Project #: *03C2012-059* Project Owner:

City: *Midland*

Project Name: *Criss 14 State St Pump*

State: *TX* Zip: *79701*

Project Location: *32.38511, -103.43594*

Phone #:

Sampler Name: *Meredith Roberts*

Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
<i>H233555</i>	<i>1</i>	<i>3'</i>	<i>G</i>	<i>1</i>			<i>X</i>					<i>X</i>	<i>7/13/23</i>	<i>1050</i>	<i>X</i>	<i>X</i>	<i>X</i>	
	<i>2</i>	<i>3.5'</i>												<i>1045</i>				
	<i>3</i>	<i>4.5'</i>												<i>1015</i>			<i>me</i>	

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising under this 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 interruption, 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: *Healio* Date: *7-12-23* Time: *1230*  
 Received By: *Meredith Roberts* Date: *7/13/23* Time: *1050*  
 Verbal Result:  Yes  No Add'l Phone #: *mrb@ensolum.com*  
 All Results are emailed. Please provide Email address: *mrb@ensolum.com*  
 REMARKS: *Incident # : APP2205837214*

Delivered By: (Circle One)  UPS  Bus  Other:  Observed Temp. °C: *28* Sample Condition:  Cool  Intact  Yes  No  
 Corrected Temp. °C:  Checked Temp. °C:  CHECKED BY: (Initials) *TR*  
 Turnaround Time:  Standard  Rush Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  
 Thermometer ID: *4140* Corrected Temp. °C:  Yes  No

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



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

June 20, 2023

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 06/14/23 13:45.

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,

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 01 7' (H233049-01)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 02 7' (H233049-02)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 03 7' (H233049-03)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 04 7' (H233049-04)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 05 7' (H233049-05)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	48.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 06 7' (H233049-06)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	06/15/2023	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS						S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	197	98.4	200	0.977		
<b>DRO &gt;C10-C28*</b>	<b>860</b>	10.0	06/15/2023	ND	178	89.0	200	0.171		
<b>EXT DRO &gt;C28-C36</b>	<b>204</b>	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 152 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 07 7' (H233049-07)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	32.0	16.0	06/15/2023	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	06/19/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/19/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/19/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 08 7' (H233049-08)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 09 7' (H233049-09)**

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	06/17/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/17/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/17/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 10 7' (H233049-10)**

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	06/17/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/17/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 89.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 11 7' (H233049-11)**

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	06/17/2023	ND	2.09	105	2.00	0.859		
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30		
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29		
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30		
Total BTEX	<0.300	0.300	06/17/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 12 4' (H233049-12)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	32.0	16.0	06/15/2023	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	06/16/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/16/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/16/2023	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 13 4' (H233049-13)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 14 19' (H233049-14)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 83.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 15 19' (H233049-15)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 16 19' (H233049-16)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	176	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 17 19' (H233049-17)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 18 1.5' (H233049-18)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	10400	16.0	06/15/2023	ND	416	104	400	0.00	QM-07, QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 19 1.5' (H233049-19)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	144	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 20 1.5' (H233049-20)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	400	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	359	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	97.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 21 1.5' (H233049-21)**

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	06/17/2023	ND	2.09	105	2.00	0.859		
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30		
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29		
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30		
Total BTEX	<0.300	0.300	06/17/2023	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	
<b>Chloride</b>	<b>736</b>	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865		
<b>DRO &gt;C10-C28*</b>	<b>25.6</b>	10.0	06/15/2023	ND	210	105	200	2.74		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 01 0-4' (H233049-22)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 99.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 02 0-4' (H233049-23)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	80.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 03 0-4' (H233049-24)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 97.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 04 0-4' (H233049-25)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 05 0-4' (H233049-26)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	48.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 82.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 06 0-4' (H233049-27)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	192	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 96.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 07 0-4' (H233049-28)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1340	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	176	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	38.6	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 08 4-7' (H233049-29)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	80.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 90.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 09 4-7' (H233049-30)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	96.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 10 4-7' (H233049-31)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 11 4-7' (H233049-32)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.0 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 12 4-7' (H233049-33)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	48.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 74.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.3 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 13 0-4' (H233049-34)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	1120	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 75.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 14 0-4' (H233049-35)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	1920	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 15 4-9' (H233049-36)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	688	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.1 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 16 14-19' (H233049-37)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	48.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.8 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 17 9-14' (H233049-38)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	48.0	16.0	06/15/2023	ND	432	108	400	0.00	QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 18 4-9' (H233049-39)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 98.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 19 14-19' (H233049-40)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.8 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 20 9-14' (H233049-41)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 81.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

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

**BILL TO**

PAGE 1 OF 5

**ANALYSIS REQUEST**

Company Name: **EnsoLum, LLC**

Project Manager: **Tacoma Morrissey**

Address: **3122 Nat'l Parks Hwy**

City: **Carlsbad** State: **NM** zip: **88220**

Phone #: **337-257-8301** Fax #:

Project #: **03C22012059** Project Owner:

Project Name: **Chiso 14 State Jet Pump Excavation**

Project Location: **32.38511, -103.43594**

Sampler Name: **Meredith Roberts**

FOR LAB USE ONLY

P.O. #: **BTA Oil**

Company: **BTA Oil**

Attn: **Kelton Beard**

Address: **104 S. Pecos St**

City: **Midland**

State: **TX** zip: **79701**

Phone #:

Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	PRESERV.		DATE	TIME	ANALYSIS		
			ACID/BASE:	ICE / COOL			OTHER:	BTEX	Chlorides
1033049	FS01	1'	X	X	6/13/23	1235	X	X	X
	FS02								
	FS03								
	FS04								
	FS05								
	FS06								
	FS07								
	FS08								
	FS09								
	FS10								

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Relinquished By: **Moody**

Received By: **SPD Morrissey**

Date: **6-14-23**

Time: **7:345**

Turnaround Time: **Standard**

Thermometer ID #113

Corrected Temp. °C: **-20**

Standard Rush

Bacteria (only) Sample Condition

Cool Intact

Yes  No

Corrected Temp. °C

Remarks: **Incident #: NAPP2205837214**

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C: **-14**

Corrected Temp. °C: **-20**

Sample Condition

Cool Intact

Yes  No

Checked By: **SPC**

Turnaround Time: **Standard**

Thermometer ID #113

Corrected Temp. °C: **-20**

Standard Rush

Bacteria (only) Sample Condition

Cool Intact

Yes  No

Corrected Temp. °C



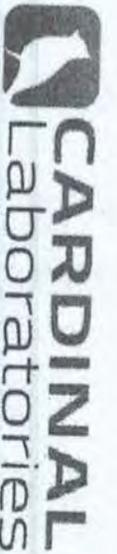
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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

PAGE 2 of 5  
ANALYSIS REQUEST

Company Name: Ensolum, LLC		Project Manager: See Pg 1		P.O. #:		<b>BILL TO</b>	
Address:		City:		Company: BTA Oil		ANALYSIS REQUEST	
State:		Zip:		Attn: See Pg 1			
Phone #:		Fax #:		Address:			
Project #: 03C2012A059		Project Owner:		City:			
Project Name: Chisolm State Jet Pump Excavation		Project Location: 32.38511, -103.43594		State:			
Project Location:		Phone #:		Zip #:			
Sampler Name: Meredith Roberts		Fax #:		DATE		TIME	
FOR LAB USE ONLY				DATE		TIME	
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING
H233049	FS11	7'	C	1	SOIL	X	9/13/23 1325
	FS12	4'	C	1	SOIL	X	1330
	FS13	19'	C	1	SOIL	X	1335
	FS14	1.5'	C	1	SOIL	X	1340
	FS15		C	1	SOIL	X	1345
	FS16		C	1	SOIL	X	1350
	FS17		C	1	SOIL	X	1355
	FS18		C	1	SOIL	X	1215
	FS19		C	1	SOIL	X	1220
	FS20		C	1	SOIL	X	1230
<p><b>PLEASE NOTE:</b> Liability and Damages. Cardinal's liability and clients' 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 service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of time, 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.</p>							
Relinquished By: <i>Meeky</i>		Date: 9/14/23		Received By: <i>Stedrickery</i>		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:	
Relinquished By: <i>Meeky</i>		Time: 1345		Received By: <i>Stedrickery</i>		All Results are emailed. Please provide Email address:	
Date: <i>9/14/23</i>		Time: <i>1345</i>		Received By: <i>Stedrickery</i>		REMARKS: See Pg 1	
Delivered By: (Circle One)		Observed Temp. °C: -1.4		Sample Condition		CHECKED BY: <i>(Signature)</i>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C: -2.0		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
				Bacteria (only) <input checked="" type="checkbox"/> Sample Condition		Cool Intact <input checked="" type="checkbox"/> Observed Temp. °C	
				Corrected Temp. °C			

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

PAGE 3 OF 5

Company Name: Ensolum, LLC  
 Project Manager: See Pg 1  
 Address: [Blank]  
 City: [Blank] State: [Blank] Zip: [Blank]  
 Phone #: [Blank] Fax #: [Blank]  
 Project #: 03C2012059 Project Owner: [Blank]  
 Project Name: Chise 14 State Jet Pump Excavation  
 Project Location: 32. 38511, -103.43594  
 Sampler Name: Meredith Roberts  
 P.O. #: [Blank] Company: BTA Oil  
 Attn: See Pg 1  
 Address: [Blank] City: [Blank]  
 State: [Blank] Zip: [Blank]  
 Phone #: [Blank] Fax #: [Blank]

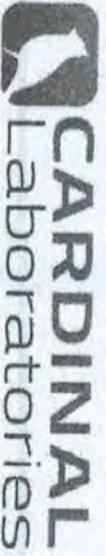
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
41	ES21	1.5'	C	1			X					6/13/23	1230	X		X
23	SW01	0-4'										6/13/23	1155			
23	SW02											6/12/23	1415			
24	SW03											6/13/23	1200			
25	SW04											6/12/23	1205			
26	SW05											6/12/23	1420			
27	SW06											6/12/23	1435			
28	SW07											6/12/23	1430			
29	SW08											6/12/23	1435			
30	SW09	4-7'										6/12/23	1446			

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Relinquished By: [Signature]  
 Date: 6/14/23  
 Time: 1345  
 Received By: [Signature]  
 Date: [Blank]  
 Time: [Blank]

Delivered By: (Circle One)  
 Sample - UPS - Bus - Other: [Blank]  
 Observed Temp. °C: -1.4  
 Corrected Temp. °C: -2.0  
 Sample Condition: Cool Intact [X] Yes [ ] No [ ]  
 CHECKED BY: [Signature]  
 Turnaround Time: Standard [X] Rush [ ]  
 Bacteria (only) Sample Condition: Cool Intact [X] Yes [ ] No [ ]  
 Corrected Temp. °C: [Blank]

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

PAGE 4 OF 5

ANALYSIS REQUEST

BILL TO

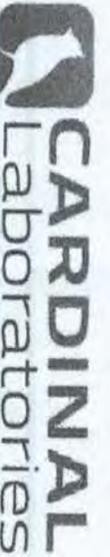
Company Name: Ensolum, LLC  
 Project Manager: See Pg 1  
 Address:  
 City:  
 State: Zip:  
 Phone #: Fax #:  
 Project #: D3C2012059 Project Owner:  
 Project Name: Chiso 14 State Jet Pump Excavation  
 Project Location: 32.38511, -103.43594  
 Sampler Name: Meredith Robert  
 P.O. #: Company: BTA O.I  
 Attn: See Pg 1  
 Address:  
 City:  
 State: Zip:  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
H233049	31 SW10	4-7'	C	1			X					6/12/23	1445	X	X	X
	32 SW11	↓										6/13/23	1210	X	X	X
	33 SW12	0-4'										6/12/23	1450	X	X	X
	34 SW13	↓										1325	1450	X	X	X
	35 SW14	4-9'											1330	X	X	X
	36 SW15	↓											1335	X	X	X
	37 SW16	14-19'											1340	X	X	X
	38 SW17	9-14'											1345	X	X	X
	39 SW18	4-9'											1350	X	X	X
	40 SW19	14-19'											1355	X	X	X

PLEASE NOTE: Usable and Damaged, Containers lobby and clients exclusive territory for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analysis. 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 interruption, 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 rendered by Cardinal, regardless of whether such claim is based upon any of the above stated releases or otherwise.

Relinquished By: *Phelley*  
 Date: 6/14/23  
 Time: 1345  
 Received By: *Speckleberry*  
 Date: 6/14/23  
 Time: 1345  
 Verbal Result:  Yes  No Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 REMARKS: See Pg 1

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  
 Observed Temp. °C: 1.4  
 Corrected Temp. °C: 2.0  
 Sample Condition:  Intact  Cool  Yes  No  
 CHECKED BY: *[Signature]*  
 Turnaround Time: Standard  Rush   
 Thermometer ID #113  
 Correction Factor: 0.5°C  
 Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  
 Observed Temp. °C:   
 Corrected Temp. °C:   
 t Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

PAGE 5 OF 5

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: See Pg 1

Address:

City:

Phone #:

Project #:

Project Name:

Project Location:

Sampler Name:

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Depth (feet)

H233049  
41

SW20

9-14'

(G)RAB OR (C)COMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

X

X

X

→ NR

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Relinquished By:

MEERS

Date: 9-14-23

Time: 1345

Received By:

Shoddequwy

Verbal Result:  Yes  No

All Results are emailed. Please provide Email address:

REMARKS: See Pg 1

Date:

Time:

Received By:

Turnaround Time:

Standard

Rush

Bacteria (only) Sample Condition

Cool Intact

Observed Temp. °C

Corrected Temp. °C

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition

Cool Intact

CHECKED BY:

(Initials)

Turnaround Time:

Thermometer ID #113

Standard

Rush

Bacteria (only) Sample Condition

Cool Intact

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

Observed Temp. °C

Corrected Temp. °C

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July 13, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 12:30.

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

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

Received:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 06 A 8' (H233554-01)**

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	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	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	32.0	16.0	07/13/2023	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	07/13/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager





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---

July 31, 2023

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CHISO 14 STATE JET PUMP

Enclosed are the results of analyses for samples received by the laboratory on 07/24/23 12:35.

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

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: FS 22 4' (H233846-01)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	7330	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 91.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: FS 23 4' (H233846-02)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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
<b>Chloride</b>	<b>1170</b>	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.4 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: SW 21 0-4' (H233846-03)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	18000	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 90.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: SW 22 0-4' (H233846-04)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	11600	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 90.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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**Notes and Definitions**

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

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Celey D. Keene, Lab Director/Quality Manager



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

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

Company Name: <b>Enslun</b> Project Manager: <b>Hadi'e Green</b> Address: <b>601 W. Marland St #400</b> City: <b>Midland</b> State: <b>TX</b> Zip: <b>79701</b> Phone #: <b>432-557-8895</b> Fax #: _____ Project #: <b>03C2012059</b> Project Owner: _____ Project Name: <b>Chiss 14 State Jet Pump</b> Project Location: <b>32, 38511, -103, 43594</b> Sampler Name: <b>Peter Van Patten</b>		<b>BILL TO</b> P.O. #: _____ Company: <b>BTA Oil</b> Attn: <b>Kelton Beard</b> Address: <b>104 S. Peas St</b> City: <b>Midland</b> State: <b>TX</b> Zip: <b>79701</b> Phone #: <b>432-682-3753</b> Fax #: _____	
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Lab I.D.	Sample I.D.	Depth	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH	BTEX	Chlorides
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
<b>H233844</b>															
	1	FS21	4'	1							7/24/23	1005	X	X	X
	2	FS22	4'	1								1010	X	X	X
	3	SWZ1	0-4'	1								1015	X	X	X
	4	SWZ2	0-4'	1								1020	X	X	X

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Relinquished By: _____ Date: <b>7-24-23</b> Time: <b>1235</b>	Received By: _____ Date: _____ Time: _____
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____	Observed Temp. °C: <b>73</b> Corrected Temp. °C: _____
Sample Condition: Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Yeast: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: _____ (Initials)
Turnaround Time: _____ Thermometer ID #140 Correction Factor 0°C: _____	Standard <input checked="" type="checkbox"/> <b>RUSH</b> Bacteria (only) Sample Condition: Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____

REMARKS: **Verbal Result: Yes**  **No**  **Add'l Phone #:** \_\_\_\_\_  
**All Results are emailed. Please provide Email address:** **ngreave@enslun.com, twor1520@enslun.com**  
 **cooler temp Blank 1.4%**



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

November 07, 2023

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CHISO 14 STATE JET PUMP

Enclosed are the results of analyses for samples received by the laboratory on 10/03/23 16:15.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B      Total Coliform and E. coli (Colilert MMO-MUG)  
Method EPA 524.2      Regulated VOCs and Total Trihalomethanes (TTHM)  
Method EPA 552.2      Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS 24 3'	H235385-01	Soil	02-Oct-23 13:05	03-Oct-23 16:15
FS 25 6'	H235385-02	Soil	02-Oct-23 14:30	03-Oct-23 16:15
SW 23 0-6'	H235385-03	Soil	03-Oct-23 10:45	03-Oct-23 16:15
FS 26 6'	H235385-04	Soil	03-Oct-23 10:50	03-Oct-23 16:15
FS 27 3'	H235385-05	Soil	03-Oct-23 11:25	03-Oct-23 16:15
FS 28 6'	H235385-06	Soil	03-Oct-23 12:00	03-Oct-23 16:15
SW 24 0-6'	H235385-07	Soil	03-Oct-23 11:35	03-Oct-23 16:15
SW 25 0-6'	H235385-08	Soil	03-Oct-23 11:30	03-Oct-23 16:15
FS 29 6'	H235385-09	Soil	03-Oct-23 12:05	03-Oct-23 16:15
FS 30 4'	H235385-10	Soil	03-Oct-23 12:40	03-Oct-23 16:15
FS 31 4'	H235385-11	Soil	03-Oct-23 12:45	03-Oct-23 16:15
FS 32 4'	H235385-12	Soil	03-Oct-23 14:10	03-Oct-23 16:15
FS 33 4'	H235385-13	Soil	03-Oct-23 14:15	03-Oct-23 16:15
SW 26 0-4'	H235385-14	Soil	03-Oct-23 13:00	03-Oct-23 16:15
SW 27 0-6'	H235385-15	Soil	03-Oct-23 13:05	03-Oct-23 16:15
SW 28 0-6'	H235385-16	Soil	03-Oct-23 14:20	03-Oct-23 16:15
SW 29 0-6'	H235385-17	Soil	03-Oct-23 14:25	03-Oct-23 16:15

11/07/23 - Client changed the sample IDs (see COC). This is the revised report and will replace the one sent on 10/04/23.

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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 24 3'**  
**H235385-01 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>400</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100339	JH	04-Oct-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			97.9 %		71.5-134	3100339	JH	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	

Surrogate: 1-Chlorooctane			109 %		48.2-134	3100340	MS	04-Oct-23	8015B	
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Surrogate: 1-Chlorooctadecane			142 %		49.1-148	3100340	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 25 6'**  
**H235385-02 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100339	JH	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			108 %	71.5-134		3100339	JH	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			103 %	48.2-134		3100340	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			129 %	49.1-148		3100340	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 23 0-6'  
H235385-03 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	64.0		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100339	JH	04-Oct-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	71.5-134		3100339	JH	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	

Surrogate: 1-Chlorooctane			86.2 %	48.2-134		3100340	MS	04-Oct-23	8015B	
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Surrogate: 1-Chlorooctadecane			94.2 %	49.1-148		3100340	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 26 6'**  
**H235385-04 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>128</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100339	JH	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100339	JH	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			102 %	71.5-134		3100339	JH	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100340	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			114 %	48.2-134		3100340	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			147 %	49.1-148		3100340	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 27 3'**  
**H235385-05 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			111 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			112 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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Cardinal Laboratories

\*=Accredited Analyte

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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 28 6'**  
**H235385-06 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>272</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			110 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			115 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 24 0-6'  
H235385-07 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	224		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

Surrogate: 1-Chlorooctane			108 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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Surrogate: 1-Chlorooctadecane			111 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 25 0-6'  
H235385-08 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	224		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			103 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

Surrogate: 1-Chlorooctane			116 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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Surrogate: 1-Chlorooctadecane			120 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 29 6'**  
**H235385-09 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>352</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			107 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			102 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			104 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 30 4'**  
**H235385-10 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>288</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			107 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			111 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 31 4'  
H235385-11 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

Chloride	256		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

Surrogate: 1-Chlorooctane			107 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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Surrogate: 1-Chlorooctadecane			114 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 32 4'  
H235385-12 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>32.0</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			107 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			110 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**FS 33 4'  
H235385-13 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>128</b>		16.0	mg/kg	4	3100419	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			104 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			92.6 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			95.5 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 26 0-4'**  
**H235385-14 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	3100421	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			101 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			105 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 27 0-6'**  
**H235385-15 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>80.0</b>		16.0	mg/kg	4	3100421	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			108 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			109 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 28 0-6'**  
**H235385-16 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>48.0</b>		16.0	mg/kg	4	3100421	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			105 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			105 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			105 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**SW 29 0-6'**  
**H235385-17 (Soil)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

**Inorganic Compounds**

<b>Chloride</b>	<b>96.0</b>		16.0	mg/kg	4	3100421	AC	04-Oct-23	4500-Cl-B	
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**Volatile Organic Compounds by EPA Method 8021**

Benzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Toluene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	3100343	MS	04-Oct-23	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	3100343	MS	04-Oct-23	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			103 %	71.5-134		3100343	MS	04-Oct-23	8021B	
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**Petroleum Hydrocarbons by GC FID**

GRO C6-C10*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	3100344	MS	04-Oct-23	8015B	

<i>Surrogate: 1-Chlorooctane</i>			103 %	48.2-134		3100344	MS	04-Oct-23	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			102 %	49.1-148		3100344	MS	04-Oct-23	8015B	
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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**Inorganic Compounds - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 3100419 - 1:4 DI Water</b>										
<b>Blank (3100419-BLK1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	ND	16.0	mg/kg							
<b>LCS (3100419-BS1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	432	16.0	mg/kg	400		108	80-120			
<b>LCS Dup (3100419-BSD1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	432	16.0	mg/kg	400		108	80-120	0.00	20	
<b>Batch 3100421 - 1:4 DI Water</b>										
<b>Blank (3100421-BLK1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	ND	16.0	mg/kg							
<b>LCS (3100421-BS1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	416	16.0	mg/kg	400		104	80-120			
<b>LCS Dup (3100421-BSD1)</b> Prepared & Analyzed: 04-Oct-23										
Chloride	432	16.0	mg/kg	400		108	80-120	3.77	20	

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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3100339 - Volatiles**

**Blank (3100339-BLK1)**

Prepared & Analyzed: 03-Oct-23

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0544		mg/kg	0.0500		109	71.5-134			

**LCS (3100339-BS1)**

Prepared & Analyzed: 03-Oct-23

Benzene	1.99	0.050	mg/kg	2.00		99.4	82.8-130			
Toluene	1.93	0.050	mg/kg	2.00		96.7	86-128			
Ethylbenzene	2.03	0.050	mg/kg	2.00		102	85.9-128			
m,p-Xylene	4.07	0.100	mg/kg	4.00		102	89-129			
o-Xylene	2.06	0.050	mg/kg	2.00		103	86.1-125			
Total Xylenes	6.13	0.150	mg/kg	6.00		102	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0525		mg/kg	0.0500		105	71.5-134			

**LCS Dup (3100339-BSD1)**

Prepared & Analyzed: 03-Oct-23

Benzene	2.08	0.050	mg/kg	2.00		104	82.8-130	4.34	15.8	
Toluene	2.13	0.050	mg/kg	2.00		106	86-128	9.52	15.9	
Ethylbenzene	2.26	0.050	mg/kg	2.00		113	85.9-128	10.6	16	
m,p-Xylene	4.55	0.100	mg/kg	4.00		114	89-129	11.2	16.2	
o-Xylene	2.28	0.050	mg/kg	2.00		114	86.1-125	10.2	16.7	
Total Xylenes	6.84	0.150	mg/kg	6.00		114	88.2-128	10.8	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0544		mg/kg	0.0500		109	71.5-134			

**Batch 3100343 - Volatiles**

**Blank (3100343-BLK1)**

Prepared & Analyzed: 03-Oct-23

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							

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**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
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**Volatile Organic Compounds by EPA Method 8021 - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 3100343 - Volatiles**

**Blank (3100343-BLK1)**

Prepared & Analyzed: 03-Oct-23

Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0521		mg/kg	0.0500		104	71.5-134			

**LCS (3100343-BS1)**

Prepared & Analyzed: 03-Oct-23

Benzene	1.98	0.050	mg/kg	2.00		98.9	82.8-130			
Toluene	1.99	0.050	mg/kg	2.00		99.7	86-128			
Ethylbenzene	1.93	0.050	mg/kg	2.00		96.4	85.9-128			
m,p-Xylene	3.96	0.100	mg/kg	4.00		99.1	89-129			
o-Xylene	1.88	0.050	mg/kg	2.00		93.9	86.1-125			
Total Xylenes	5.84	0.150	mg/kg	6.00		97.4	88.2-128			
Surrogate: 4-Bromofluorobenzene (PID)	0.0492		mg/kg	0.0500		98.5	71.5-134			

**LCS Dup (3100343-BSD1)**

Prepared & Analyzed: 03-Oct-23

Benzene	1.98	0.050	mg/kg	2.00		99.2	82.8-130	0.364	15.8	
Toluene	2.03	0.050	mg/kg	2.00		101	86-128	1.70	15.9	
Ethylbenzene	1.94	0.050	mg/kg	2.00		97.2	85.9-128	0.877	16	
m,p-Xylene	3.96	0.100	mg/kg	4.00		99.0	89-129	0.0685	16.2	
o-Xylene	1.87	0.050	mg/kg	2.00		93.6	86.1-125	0.381	16.7	
Total Xylenes	5.83	0.150	mg/kg	6.00		97.2	88.2-128	0.169	16.3	
Surrogate: 4-Bromofluorobenzene (PID)	0.0501		mg/kg	0.0500		100	71.5-134			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
--	---	------------------------------

**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 3100340 - General Prep - Organics**

<b>Blank (3100340-BLK1)</b>		Prepared & Analyzed: 03-Oct-23								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	57.1		mg/kg	50.0		114	48.2-134			
Surrogate: 1-Chlorooctadecane	75.6		mg/kg	50.0		151	49.1-148			S-04

<b>LCS (3100340-BS1)</b>		Prepared & Analyzed: 03-Oct-23								
GRO C6-C10	205	10.0	mg/kg	200		103	66.4-123			
DRO >C10-C28	218	10.0	mg/kg	200		109	66.5-118			
Total TPH C6-C28	423	10.0	mg/kg	400		106	77.6-123			
Surrogate: 1-Chlorooctane	60.4		mg/kg	50.0		121	48.2-134			
Surrogate: 1-Chlorooctadecane	73.8		mg/kg	50.0		148	49.1-148			

<b>LCS Dup (3100340-BSD1)</b>		Prepared & Analyzed: 03-Oct-23								
GRO C6-C10	194	10.0	mg/kg	200		96.8	66.4-123	5.69	17.7	
DRO >C10-C28	201	10.0	mg/kg	200		101	66.5-118	8.08	21	
Total TPH C6-C28	395	10.0	mg/kg	400		98.7	77.6-123	6.92	18.5	
Surrogate: 1-Chlorooctane	56.2		mg/kg	50.0		112	48.2-134			
Surrogate: 1-Chlorooctadecane	76.8		mg/kg	50.0		154	49.1-148			S-04

**Batch 3100344 - General Prep - Organics**

<b>Blank (3100344-BLK1)</b>		Prepared: 03-Oct-23 Analyzed: 04-Oct-23								
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	54.2		mg/kg	50.0		108	48.2-134			
Surrogate: 1-Chlorooctadecane	56.8		mg/kg	50.0		114	49.1-148			

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC 705 W WADLEY AVE. MIDLAND TX, 79705	Project: CHISO 14 STATE JET PUMP Project Number: 03C2012059 ( 32.3850755-103 Project Manager: HADLIE GREEN Fax To:	Reported: 07-Nov-23 16:45
--	---	------------------------------

**Petroleum Hydrocarbons by GC FID - Quality Control**

**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 3100344 - General Prep - Organics**

**LCS (3100344-BS1)**

Prepared: 03-Oct-23 Analyzed: 04-Oct-23

GRO C6-C10	204	10.0	mg/kg	200		102	66.4-123			
DRO >C10-C28	199	10.0	mg/kg	200		99.3	66.5-118			
Total TPH C6-C28	403	10.0	mg/kg	400		101	77.6-123			
Surrogate: 1-Chlorooctane	58.0		mg/kg	50.0		116	48.2-134			
Surrogate: 1-Chlorooctadecane	59.9		mg/kg	50.0		120	49.1-148			

**LCS Dup (3100344-BSD1)**

Prepared: 03-Oct-23 Analyzed: 04-Oct-23

GRO C6-C10	201	10.0	mg/kg	200		100	66.4-123	1.65	17.7	
DRO >C10-C28	201	10.0	mg/kg	200		101	66.5-118	1.19	21	
Total TPH C6-C28	402	10.0	mg/kg	400		100	77.6-123	0.240	18.5	
Surrogate: 1-Chlorooctane	55.5		mg/kg	50.0		111	48.2-134			
Surrogate: 1-Chlorooctadecane	57.7		mg/kg	50.0		115	49.1-148			

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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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

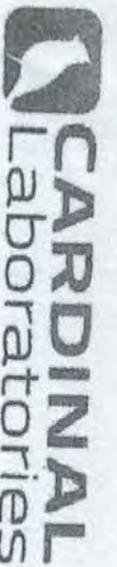
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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Project Manager: Hadlie Green  
 Address: 1001 N. Makenfeld St # 400  
 City: Midland State: TX Zip: 79701  
 Phone #: 432-557-8895 Fax #: 432-557-8895  
 Project #: 03C2012059 Project Owner:  
 Project Name: Chisoma State Jet Pump Excavation  
 Project Location: 32.3850755 - 103.4358097  
 Sampler Name: Mariaha O'Dell

P.O. #:   
 Company: BTA Oil  
 Attn: Keiton Beard  
 Address: 104 S Pelross St  
 City: Midland State: TX Zip: 79701  
 Phone #:   
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:						ICE / COOL
H235385	*	3'	C	1	X								10/2/23	13:05	X	X	X
1	FSD0224	10'	C	1	X								10/2/23	14:30	X	X	X
2	SMD0223	0-10'	C	1	X								10/3/23	10:45	X	X	X
3	FSD0226	10'	C	1	X								10/3/23	10:50	X	X	X
4	FSD0227	3'	C	1	X								10/3/23	11:25	X	X	X
5	FSD0228	10'	C	1	X								10/3/23	12:00	X	X	X
6	SMD0224	0-10'	C	1	X								10/3/23	11:35	X	X	X
7	SMD0225	0-10'	C	1	X								10/3/23	11:30	X	X	X
8	FSD0229	10'	C	1	X								10/3/23	12:05	X	X	X
9	FSD0230	10'	C	1	X								10/3/23	12:40	X	X	X

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Relinquished By: *M. Miller*  
 Date: 10/3/23  
 Time: 15:00  
 Received By: *M. Miller*  
 Date: 10/3/23  
 Time: 16:15

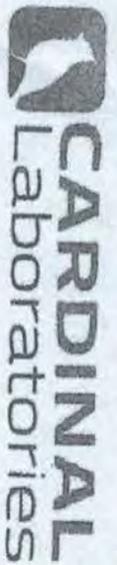
Verbal Result:  Yes  No  Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 hgreene@ensolum.com, mode.11@ensolum.com

REMARKS: \* Customer requested ID changes. 10/17/23

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  
 Observed Temp. °C: 19°C  
 Corrected Temp. °C:  
 Sample Condition:  
 Cool Intact   
 Yes  No   
 Bacteria (only) Sample Condition:  
 Cool Intact   
 Yes  No   
 Corrected Temp. °C:

CHECKED BY: (Initials)  
 Turnaround Time: 24 hrs  
 Standard Rush   
 ThermoMeter #1190  
 Corrosion Factor: 0.5°C

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: Hadlie Green

Address: 1001 N. Marienfeld St #400  
 City: Midland State: TX Zip: 79701

Phone #: 432-557-8895 Fax #:

Project #: 03C2012059 Project Owner:

Project Name: CHISO 14 State Jet Pump Excavation

Project Location: 32.3850755-103.4358097

Sampler Name: Makaha O'Dell

BILL TO

ANALYSIS REQUEST

P.O. #: Company: BTA Oil  
 Attn: Kethon Beard  
 Address: 4604 S. PECOS ST  
 City: Midland State: TX Zip: 79701  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
HE353K5	*	4'		1	X							10/3/23	12:45	X	X	X
12	FS08 31	4'		1	X							14:10	14:15	X	X	X
13	FS04 32	4'		1	X							14:15	13:00	X	X	X
14	ESTD 33	4'		1	X							14:15	13:05	X	X	X
15	SMD4 26	0-14'		1	X							14:20	14:20	X	X	X
16	SMD8 27	0-10'		1	X							14:25	14:25	X	X	X
17	SMD8 28	0-10'		1	X									X	X	X
	SMD7 29	0-10'		1	X									X	X	X

PLEASE NOTE: Labels and Damages. Cardlabs liability and clients 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 Cardlabs within 30 days after completion of the applicable service. In no event shall Cardlabs be liable for incidental or consequential damages, including without limitation, business interruption, loss of time, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardlabs, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *[Signature]* Date: 10/3/23 Time: 15:02  
 Received By: *[Signature]* Date: 10/3/23 Time: 16:15

Delivered By: (Circle One) *[Signature]* Observed Temp.: *19°C* Corrected Temp.: *C*  
 Sampler - UPS - Bus - Other: *UPS* Sample Condition Cool Intact  Yes  No  
 CHECKED BY: (Initials) *OK* TYPINGROUND TIME: 24 HRS Thermometer ID #443-3140 Correction Factor: *0.5°C*  
 Bacteria (only) Sample Condition Cool Intact  Yes  No  
 Corrected Temp.: *C*

REMARKS: \*Customer requested ID changes. To-11/7/23  
 Verbal Result:  Yes  No Add'l Phone #: *10/3/23*  
 All Results are emailed. Please provide Email address: *mgreene@ensolum.com, model@ensolum.com*  
 † Cardinal cannot accept verbal changes. Please email changes to *celcy.keene@cardinallabsnm.com*



APPENDIX F  
Reclamation Plan

---

BTA Oil Producers, LLC  
Remediation Work Plan  
Chiso 14 State Jet Pump and Excavation

## RECLAMATION PLAN

Portions of the release occurred off pad in the pasture and as such, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the off pad area that was impacted by the release per 19.15.29.13.D (1)) NMAC for the top 4 feet of areas that will be reclaimed following remediation. The following Reclamation Plan addresses reclamation of the off-pad area:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. Approximately 1 foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;
- Soil in the vicinity of the release include: poorly graded sand, fine to medium-grained with trace silt and clay;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed by the NMSLO to meet reclamation standards for this region, which will be: Sandy Loam (SL) seed mixture as described in the NMSLO *Revegetation Guidelines Handbook for Southeastern New Mexico*, dated 2018;
- The seed mixture will be distributed with either a push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding method(s);
- Application of the seed mixutre 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;
- If necessary, erosion control management will potentially include:
  - The placement of waddles 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 completed upon approval of this *Closure Request* and prior to reseeding efforts;
- Seeding is anticipated to be completed in the Fall when temperatures and precipitation is 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 adhered to 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 Spring/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;

Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.



## APPENDIX G

### NMOCD Correspondence

---

**Dan Moir**

---

**From:** Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>  
**Sent:** Friday, June 2, 2023 11:55 PM  
**To:** Hadlie Green; Enviro, OCD, EMNRD  
**Cc:** Tacoma Morrissey; Peter Van Patten; Kelton Beard; Nathan Sirgo  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 06/05/2023

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

Received.

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

**Mike Buchanan** • Environmental Specialist  
Environmental Bureau  
EMNRD - Oil Conservation Division  
8801 Horizon Blvd. NE | Albuquerque, NM 87113  
| [michael.buchanan@emnrd.nm.gov](mailto:michael.buchanan@emnrd.nm.gov)  
<http://www.emnrd.nm.gov/oed>



---

**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Friday, June 2, 2023 9:25 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Peter Van Patten <pvanpatten@ensolum.com>; Kelton Beard <KBeard@btaoil.com>; Nathan Sirgo <nsirgo@btaoil.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 06/05/2023

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 June 5, 2023.

- Harroun East Tank Battery / nAPP2202845563
  - Sampling Date: 6/5/2023 @ 9:00 AM MST
- Vaca Draw 9418 JV-P 001 / nCH1835540209
  - Sampling Date: 6/6/2023 @ 9:00 AM MST
- Carrasco 14-1H / nAPP2313656375
  - Sampling Date: 6/6/2023 @ 9:00 AM MST
- Chiso 14 State Jet Pump Excavation / nAPP2205837214

- Sampling Date: 6/5/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 

**Dan Moir**

---

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Friday, June 9, 2023 4:22 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 06/12/2023

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

Hadlie,

Please be aware that 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.

JH

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



---

**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Thursday, June 8, 2023 9:14 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beaird <KBeaird@btaoil.com>; Nathan Sirgo <nsirgo@btaoil.com>; Peter Van Patten <pvanpatten@ensolum.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 06/12/2023

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 June 12, 2023.

- Chiso 14 State Jet Pump Excavation / nAPP2205837214
  - Sampling Date: 6/12-13/2023 @ 9:00 AM MST
- Chiso 14 State 8711 #003H Wellhead / nAB1917652490
  - Sampling Date: 6/14-15/2023 @ 9:00 AM MST
- Chiso 14 State 8711 Flowline / nRM2034960665

- Sampling Date: 6/14-15/2023 @ 9:00 AM MST
- Mesa 30 31 Tank Battery / nAPP2106930621
  - Sampling Date: 6/14/2023 @ 9:00 AM MST
- Rojo 10-13/34-37 / nAPP2313055442
  - Sampling Date: 6/15-16/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 

**Dan Moir**

---

**From:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Sent:** Thursday, June 29, 2023 10:48 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 07/3/2023

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

Hadlie,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

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



---

**From:** Hadlie Green <hgreen@ensolum.com>  
**Sent:** Thursday, June 29, 2023 8:18 AM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beaird <KBeaird@btaoil.com>; Peter Van Patten <pvanpatten@ensolum.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 07/3/2023

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 July 3, 2023.

- Vacuum SWD H 35 Pipeline / nAPP2313058428
  - Sampling Date: 7/5/2023 @ 9:00 AM MST
- Chiso 14 State Jet Pump Excavation / nAPP2205837214
  - Sampling Date: 7/6/2023 @ 9:00 AM MST
- Mesa B #25 / nAPP2112744758
  - Sampling Date: 7/6-7/2023 @ 9:00 AM MST

- Mesa #16H Flowline / nAPP2123156473
  - Sampling Date: 7/7/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

**in f** 

**Dan Moir**

---

**From:** Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>  
**Sent:** Wednesday, July 19, 2023 10:52 PM  
**To:** Hadlie Green  
**Cc:** Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Velez, Nelson, EMNRD  
**Subject:** RE: [EXTERNAL] BTA - Sampling Notification - Week of 07/24/2023

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

Good afternoon Hadlie,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

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>  
**Sent:** Wednesday, July 19, 2023 1:36 PM  
**To:** Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>  
**Cc:** Tacoma Morrissey <tmorrissey@ensolum.com>; Kelton Beaird <KBeaird@btaoil.com>  
**Subject:** [EXTERNAL] BTA - Sampling Notification - Week of 07/24/2023

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 July 24, 2023.

- Chiso 14 State Jet Pump and Excavation / nAPP2205837214
  - Sampling Date: 7/25-26/2023 @ 9:00 AM MST
- Mesa #2H Tank Battery / NRM2026945362
  - Sampling Date: 7/27/2023 @ 9:00 AM MST
- Mesa B #2 Tank Battery / nAPP2113973789
  - Sampling Date: 7/28/2023 @ 9:00 AM MST

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

Ensolum, LLC

in f 



APPENDIX H

Final C-141

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

State of New Mexico  
Energy Minerals and Natural  
Resources Department

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

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

Incident ID	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2205837214
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.38511 Longitude: -103.43594

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chiso 14 State Jet Pump and Excavation	Site Type: Tank Battery
Date Release Discovered: 2/26/2022	API# (if applicable) Nearest well:

Unit Letter	Section	Township	Range	County
P	14	22S	34E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: Merchant Livestock Company)

### 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) 165 BBL	Volume Recovered (bbls) 70 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" 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

Jet Pump Failure.

A plug on the manifold of a Jet Pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an active excavation being conducted to remove previously contaminated soil. The volume of recovered water was taken from the excavation. The estimate of the volume of water released was calculated from tank gauge data (attached).

Form C-141

State of New Mexico  
Oil Conservation Division

Page 2

Incident ID	nAPP2205837214
District RP	
Facility ID	fAPP2129434580
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  The volume of the release exceeds 25 BBL.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by filing a Notice of Release (NOR) on the NMOCD Permitting website on 2/27/2022. The Incident ID listed above was assigned after the NOR was acknowledged by the NMOCD.	

### 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: <b>Bob Hall</b> Title: <b>Environmental Manager</b>  Signature: <u></u> Date: <b>3/8/2022</b>  email: <b>bhall@btaoil.com</b> Telephone: <b>432-682-3753</b>
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

Incident ID	nAPP2205837214
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (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 checked="" type="checkbox"/> Yes <input 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.

<b>Characterization Report Checklist:</b> <i>Each of the following items must be included in the report.</i>
<input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
<input checked="" type="checkbox"/> Field data
<input checked="" type="checkbox"/> Data table of soil contaminant concentration data
<input checked="" type="checkbox"/> Depth to water determination
<input checked="" type="checkbox"/> Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
<input checked="" type="checkbox"/> Boring or excavation logs
<input checked="" type="checkbox"/> Photographs including date and GIS information
<input checked="" type="checkbox"/> Topographic/Aerial maps
<input checked="" type="checkbox"/> 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.



Incident ID	nAPP2205837214
District RP	
Facility ID	
Application ID	

## Closure

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

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

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

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

Printed Name:   Kelton Beard   Title:   Environmental Manager    
Signature:      Date:   12/1/2023    
email:   KBeard@btaoil.com   Telephone:   432-312-2203  

**OCD Only**

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

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_



APPENDIX B

Photographic Log

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**Photographic Log**

BTA Oil Producers, LLC  
Chiso 14 State Jet Pump Excavation  
Incident Number nAPP2205837214



Photograph: 1 Date: 8/6/2024  
Description: Reclaimed area  
View: Southwest

Photograph: 2 Date: 8/6/2024  
Description: Reclaimed area  
View: Southwest



Photograph: 3 Date: 8/6/2024  
Description: Reseeded area  
View: South

Photograph: 4 Date: 8/6/2024  
Description: Reseeded area  
View: North



## APPENDIX C

### Laboratory Analytical Reports & Chain of Custody Documentation

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

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June 17, 2024

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 06/11/24 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. 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:**

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

Received:	06/11/2024	Sampling Date:	06/10/2024
Reported:	06/17/2024	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Alyssa Parras
Project Location:	BTA 32.3850755, -103.4358097		

**Sample ID: BF 01 0.5' (H243381-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/14/2024	ND	2.11	105	2.00	1.59	
Toluene*	<0.050	0.050	06/14/2024	ND	2.26	113	2.00	1.56	
Ethylbenzene*	<0.050	0.050	06/14/2024	ND	2.27	113	2.00	1.55	
Total Xylenes*	<0.150	0.150	06/14/2024	ND	6.98	116	6.00	1.81	
Total BTEX	<0.300	0.300	06/14/2024	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	48.0	16.0	06/14/2024	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	06/13/2024	ND	175	87.6	200	3.93	
DRO >C10-C28*	<10.0	10.0	06/13/2024	ND	184	91.9	200	1.48	
EXT DRO >C28-C36	<10.0	10.0	06/13/2024	ND					

Surrogate: 1-Chlorooctane 73.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.0 % 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

**Notes and Definitions**

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

Cardinal Laboratories

\*=Accredited Analyte

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



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

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

**BILL TO**

**ANALYSIS REQUEST**

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 Owner: BTA  
 Project #: 03C2012059  
 Project Name: Chiso 14 State Jet Pump Excavation  
 Project Location:  
 Sampler Name: *Conor Whitton*  
 P.O. #: Company: BTA Oil  
 Attn: Ray Ramos  
 Address: 104 S Pecos St  
 City: Midland State: TX Zip: 79701  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:			
11243381	BFO1	0.5	C	1								6-10-25	1400	BTEX TPH Chloride

**PLEASE NOTE:** Liability and Damages, Cardinal's liability and client's remedies for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. 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: *CHH* Date: *6-11-24* Time: *1315*  
 Received By: *[Signature]*  
 Verbal Result:  Yes  No  Add'l Phone #:  
 All Results are emailed. Please provide Email address: HGreen@ensolum.com  
 REMARKS: nAPP2205837214

Delivered By: (Circle One) Observed Temp. °C: *0.7* Corrected Temp. °C: *0.7*  
 Sampler - UPS - Bus - Other: Sample Condition: Cool Intact  Yes  No  
 CHECKED BY: (Initials) *AS*  
 Turnaround Time: Standard  Rush   
 Thermometer ID # *444* Bacteria (only) Sample Condition: Cool Intact  Yes  No  
 Correction Factor *0.55* Observed Temp. °C: *14.5* Corrected Temp. °C: *14.5*



## APPENDIX C

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

---



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

July 17, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 12:30.

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

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:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 3B 3' (H233555-01)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	144	16.0	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 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:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 4B 3.5' (H233555-02)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 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	80.0	16.0	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.9 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/17/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: AH - 5B 4.5' (H233555-03)**

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	07/13/2023	ND	1.99	99.5	2.00	1.53	
Toluene*	<0.050	0.050	07/13/2023	ND	1.99	99.3	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/13/2023	ND	1.99	99.4	2.00	1.23	
Total Xylenes*	<0.150	0.150	07/13/2023	ND	5.87	97.8	6.00	1.40	
Total BTEX	<0.300	0.300	07/13/2023	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	07/13/2023	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/14/2023	ND	213	106	200	0.650	
DRO >C10-C28*	<10.0	10.0	07/14/2023	ND	206	103	200	2.60	
EXT DRO >C28-C36	<10.0	10.0	07/14/2023	ND					

Surrogate: 1-Chlorooctane 91.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC

**BILL TO**

ANALYSIS REQUEST

Project Manager: Healle Green

P.O. #:

Address: 3122 Nat'l Parks Hwy

Company: BTA Oil

City: Carlsbad

State: NM Zip: 88230

Attn: Keaton Beard

Phone #: 432-557-8895 Fax #:

Address: 104 S. Peers St

Project #: 03C2012-059 Project Owner:

City: Midland

Project Name: Criso 14 State # Pump

State: TX Zip: 79701

Project Location: 32.38511, -103.43594

Phone #:

Sampler Name: Meredith Roberts

Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:					
H233555	AH-3B	3'	G	1			X								
	AH-4B	3.5'									7/13/23	1050	X	X	X
	AH-5B	4.5'										10/15			nr

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Relinquished By: *Healle Green*

Date: 7-12-23

Received By: *Meredith Roberts*

Verbal Result:  Yes  No Add'l Phone #:

Time: 1230

Received By: *Meredith Roberts*

REMARKS: Incident # : APP2205237214  
 All Results are emailed. Please provide Email address: [myre@ensolum.com](mailto:myre@ensolum.com)  
[tom@ensolum.com](mailto:tom@ensolum.com)  
[mrb@ensolum.com](mailto:mrb@ensolum.com)

Relinquished By:

Date:

Received By:

Turnaround Time:  Standard  Rush

Time:

Observed Temp. °C: 28

Sample Condition:  Cool  Intact

CHECKED BY: *(Initials)*

Thermometer ID: #117

Standard

Bacteria (only)

Sample Condition

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition

CHECKED BY: *(Initials)*

Thermometer ID

Standard

Bacteria (only)

Sample Condition

Sampler - UPS - Bus - Other:

Corrected Temp. °C

Sample Condition

CHECKED BY: *(Initials)*

Thermometer ID

Standard

Bacteria (only)

Sample Condition

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



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

June 20, 2023

TACOMA MORRISSEY

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 06/14/23 13:45.

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,

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 01 7' (H233049-01)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 02 7' (H233049-02)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 03 7' (H233049-03)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 04 7' (H233049-04)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 05 7' (H233049-05)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	48.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 06 7' (H233049-06)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/15/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS							S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	197	98.4	200	0.977			
DRO >C10-C28*	860	10.0	06/15/2023	ND	178	89.0	200	0.171			
EXT DRO >C28-C36	204	10.0	06/15/2023	ND							

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 152 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 07 7' (H233049-07)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8		
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54		
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48		
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26		
Total BTEX	<0.300	0.300	06/16/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	32.0	16.0	06/15/2023	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	06/19/2023	ND	197	98.4	200	0.977		
DRO >C10-C28*	<10.0	10.0	06/19/2023	ND	178	89.0	200	0.171		
EXT DRO >C28-C36	<10.0	10.0	06/19/2023	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 08 7' (H233049-08)**

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	06/16/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/16/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/16/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/16/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/16/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	197	98.4	200	0.977	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	178	89.0	200	0.171	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 09 7' (H233049-09)**

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	06/17/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/17/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 91.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 10 7' (H233049-10)**

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	06/17/2023	ND	1.55	77.7	2.00	23.8	
Toluene*	<0.050	0.050	06/17/2023	ND	1.83	91.6	2.00	5.54	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	1.95	97.4	2.00	1.48	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	5.87	97.8	6.00	3.26	
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 89.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 11 7' (H233049-11)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 12 4' (H233049-12)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	32.0	16.0	06/15/2023	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	06/16/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/16/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/16/2023	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 13 4' (H233049-13)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 14 19' (H233049-14)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 83.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 15 19' (H233049-15)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 16 19' (H233049-16)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	176	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 128 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 17 19' (H233049-17)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 18 1.5' (H233049-18)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	10400	16.0	06/15/2023	ND	416	104	400	0.00	QM-07, QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 19 1.5' (H233049-19)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	144	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 20 1.5' (H233049-20)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	400	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	359	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	97.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATIO	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 21 1.5' (H233049-21)**

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	06/17/2023	ND	2.09	105	2.00	0.859		
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30		
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29		
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30		
Total BTEX	<0.300	0.300	06/17/2023	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	
<b>Chloride</b>	<b>736</b>	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865		
<b>DRO &gt;C10-C28*</b>	<b>25.6</b>	10.0	06/15/2023	ND	210	105	200	2.74		
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND						

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 01 0-4' (H233049-22)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 99.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 02 0-4' (H233049-23)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	80.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 03 0-4' (H233049-24)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 97.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 04 0-4' (H233049-25)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	16.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 05 0-4' (H233049-26)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	48.0	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 82.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 06 0-4' (H233049-27)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	192	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 96.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 07 0-4' (H233049-28)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	1340	16.0	06/15/2023	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	06/15/2023	ND	188	93.8	200	0.865	
DRO >C10-C28*	176	10.0	06/15/2023	ND	210	105	200	2.74	
EXT DRO >C28-C36	38.6	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 08 4-7' (H233049-29)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	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	80.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 90.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 09 4-7' (H233049-30)**

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	06/17/2023	ND	2.09	105	2.00	0.859	
Toluene*	<0.050	0.050	06/17/2023	ND	2.36	118	2.00	2.30	
Ethylbenzene*	<0.050	0.050	06/17/2023	ND	2.28	114	2.00	3.29	
Total Xylenes*	<0.150	0.150	06/17/2023	ND	6.93	116	6.00	3.30	
Total BTEX	<0.300	0.300	06/17/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	96.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 10 4-7' (H233049-31)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 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	64.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 83.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/13/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 11 4-7' (H233049-32)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 12 4-7' (H233049-33)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	48.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 74.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 13 0-4' (H233049-34)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	1120	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 75.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 14 0-4' (H233049-35)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	1920	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 15 4-9' (H233049-36)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	688	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 16 14-19' (H233049-37)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	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	48.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 17 9-14' (H233049-38)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	48.0	16.0	06/15/2023	ND	432	108	400	0.00	QR-03

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 18 4-9' (H233049-39)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 98.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 19 14-19' (H233049-40)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	32.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 78.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.8 % 49.1-148

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**Analytical Results For:**

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

Received:	06/14/2023	Sampling Date:	06/12/2023
Reported:	06/20/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Shalyn Rodriguez
Project Location:	BTA 32.38511-103.43594		

**Sample ID: SW 20 9-14' (H233049-41)**

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	06/15/2023	ND	1.89	94.4	2.00	23.7	
Toluene*	<0.050	0.050	06/15/2023	ND	1.99	99.4	2.00	8.79	
Ethylbenzene*	<0.050	0.050	06/15/2023	ND	2.09	104	2.00	3.19	
Total Xylenes*	<0.150	0.150	06/15/2023	ND	6.23	104	6.00	2.82	
Total BTEX	<0.300	0.300	06/15/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	<16.0	16.0	06/15/2023	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	06/15/2023	ND	228	114	200	7.26	
DRO >C10-C28*	<10.0	10.0	06/15/2023	ND	233	116	200	5.54	
EXT DRO >C28-C36	<10.0	10.0	06/15/2023	ND					

Surrogate: 1-Chlorooctane 81.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical limits.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

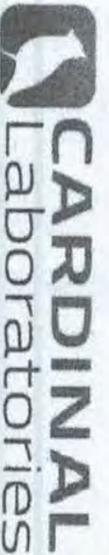
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

PAGE 1 OF 5

BILL TO

Company Name: Ensolum, LLC

Project Manager: Tacoma Morrissey

Address: 3122 Nat'l Parks Hwy  
City: Carlsbad State: NM Zip: 88220

Phone #: 337-257-8301 Fax #:  
Project #: 03C22012059 Project Owner:

Project Name: Chiso 14 State Jet Pump Excavation  
Project Location: 32.38511, -103.43594

Sampler Name: Meredith Roberts

P.O. #: Company: BTA Oil  
Attn: Kelton Beard  
Address: 104 S. Pecos St  
City: Midland State: TX Zip: 79701

Fax #: Phone #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
1033049	FS01	7'	C	1	X						X	X	X		
	FS02										6/13/23	1235			
	FS03											1240			
	FS04											1245			
	FS05											1250			
	FS06											1255			
	FS07											1300			
	FS08											1305			
	FS09											1310			
	FS10											1315			
												1320			

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Relinquished By: *Morrissey*

Received By: *Meredith Roberts*

Date: 6/14/23

Time: 1345

Observed Temp.: -1.4

Corrected Temp.: -2.0

Sample Condition: Cool Intact  Yes  No

Checked By: *Morrissey*

Turnaround Time: Standard  Rush

Bacteria (only) Sample Condition: Cool Intact  Yes  No

Thermometer ID #113

Correction Factor: -0.5°C

Remarks: Incident #: NAPP2205837214

Verbal Result:  Yes  No

Add'l Phone #:

All Results are emailed. Please provide Email address: *tmorrissey@ensolum.com*

REMARKS: *mroberts@ensolum.com*

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp.: -1.4

Corrected Temp.: -2.0

Sample Condition: Cool Intact  Yes  No

Checked By: *Morrissey*

Turnaround Time: Standard  Rush

Bacteria (only) Sample Condition: Cool Intact  Yes  No

Thermometer ID #113

Correction Factor: -0.5°C

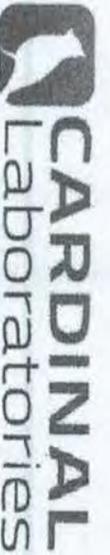
Remarks: Incident #: NAPP2205837214

Verbal Result:  Yes  No

Add'l Phone #:

All Results are emailed. Please provide Email address: *tmorrissey@ensolum.com*

REMARKS: *mroberts@ensolum.com*



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

PAGE 2 of 5  
ANALYSIS REQUEST

Company Name: Ensolum, LLC		Project Manager: See Pg 1		P.O. #:		<b>BILL TO</b>	
Address:		City:		Company: BTA Oil			
State:		Zip:		Attn: See Pg 1			
Phone #:		Fax #:		Address:			
Project #:		Project Owner:		City:			
Project Name: Chisolo State Jet Pump Excavation		Project Location: 32.38511, -103.43594		State:		Zip:	
Sampler Name: Meredith Roberts		FOR LAB USE ONLY		Phone #:			
				Fax #:			

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	Chlorides	TPH	
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						ACID/BASE:
H233049	FS11	7'	C	1			X					9/13/23	1325	X	X	X
	FS12	4'											1330			
	FS13	↓											1335			
	FS14	19'											1340			
	FS15	↓											1345			
	FS16	↓											1350			
	FS17	↓											1355			
	FS18	1.5'											1215			
	FS19	↓											1220			
	FS20	↓											1230			

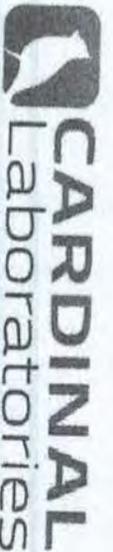
  

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Relinquished By: *Meeky* Date: *9/14/23* Time: *1345* Received By: *Stedrikow*

Delivered By: (Circle One)  UPS  Bus  Other:  Observed Temp. °C: *-1.4* Corrected Temp. °C: *-2.0* Sample Condition:  Cool  Intact  Yes  No  Yes  No CHECKED BY: *[Signature]* Turnaround Time:  Standard  Rush Bacteria (only)  Sample Condition  Cool  Intact  Yes  No  Yes  No Observed Temp. °C:  Corrected Temp. °C:  Verbal Results:  Yes  No Add'l Phone #:  All Results are emailed. Please provide Email address: *See Pg 1* REMARKS: *See Pg 1*

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240  
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PAGE 3 OF 5

BILL TO

ANALYSIS REQUEST

Company Name: Ensolium, LLC  
 Project Manager: See Pg 1  
 Address: [Blank]  
 City: [Blank] State: [Blank] Zip: [Blank]  
 Phone #: [Blank] Fax #: [Blank]  
 Project #: 03C2012059 Project Owner: [Blank]  
 Project Name: Chise 14 State Jet Pump Excavation  
 Project Location: 32. 38511, -103.43594  
 Sampler Name: Meredith Roberts  
 P.O. #: [Blank] Company: BTA Oil  
 Attn: See Pg 1  
 Address: [Blank] City: [Blank]  
 State: [Blank] Zip: [Blank]  
 Phone #: [Blank] Fax #: [Blank]

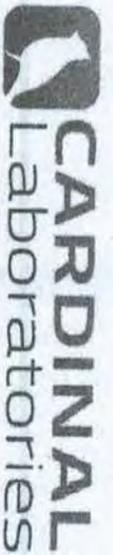
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
4233049	ES21	1.5'	C	1			X					6/13/23	1230	X		X
	SW01	0-4'											1155	X		
	SW02											6/12/23	1415			
	SW03											6/13/23	1200			
	SW04											6/12/23	1205			
	SW05											6/12/23	1420			
	SW06												1435			
	SW07												1430			
	SW08	4-7'											1435			
	SW09												1446			

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Relinquished By: [Signature]  
 Date: 6/14/23  
 Time: 1345  
 Received By: [Signature]  
 Date: [Blank]  
 Time: [Blank]  
 Verbal Result:  Yes  No Add'l Phone #: [Blank]  
 All Results are emailed. Please provide Email address: [Blank]  
 REMARKS: See Pg 1

Delivered By: (Circle One)  
 Sample - UPS - Bus - Other: [Blank]  
 Observed Temp.: -1.4 °C  
 Corrected Temp.: -2.0 °C  
 Sample Condition: Cool Intact  Yes  No  
 Checked By: [Signature]  
 Turnaround Time: Standard  Rush   
 Thermometer ID #113  
 Correction Factor: -0.5°C  
 Bacteria (only) Sample Condition: Cool Intact  Yes  No  
 Corrected Temp.: [Blank] °C

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

PAGE 4 OF 5

ANALYSIS REQUEST

Company Name: Ensolum, LLC  
 Project Manager: See Pg 1  
 P.O. #:   
 Address:   
 City:   
 State:   
 Zip:   
 Company: BTA-O:1  
 Attn: See Pg 1  
 Address:   
 City:   
 State:   
 Zip:   
 Project #: D3C2012059 Project Owner:   
 Project Name: Chiso 14 State Jet Pump Excavation  
 Project Location: 32.38511, -103.43594  
 Phone #:   
 Fax #:   
 Sampler Name: Meredith Roberts  
 P.O. #:   
 Address:   
 City:   
 State:   
 Zip:   
 Phone #:   
 Fax #:   
**BILL TO**

FOR LAB USE ONLY  
 Lab I.D. **H233049**  
 Sample I.D.   
 Depth (feet)   
 (G)RAB OR (C)OMP.   
 # CONTAINERS   
 MATRIX:   
 GROUNDWATER   
 WASTEWATER   
 SOIL   
 OIL   
 SLUDGE   
 OTHER:   
 ACID/BASE:   
 ICE / COOL   
 OTHER:   
 PRESERV.   
 SAMPLING DATE TIME   
 BTEX   
 Chlorides   
 TPH

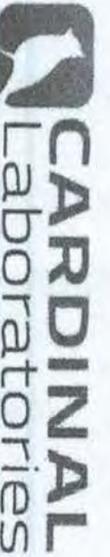
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING DATE TIME	BTEX	Chlorides	TPH
H233049	31 SW10	4-7'	C	1	X	X	6/12/23 1445	X	X	X
	32 SW11	↓					6/13/23 1210			
	33 SW12	0-4'					6/13/23 1450			
	34 SW13	↓					1305 4:50 PM			
	35 SW14	4-9'					1330			
	36 SW15	↓					1335			
	37 SW16	4-9'					1340			
	38 SW17	9-14'					1345			
	39 SW18	4-9'					1350			
	40 SW19	14-19'					1355			

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Relinquished By: *Philly*  
 Date: 6/14/23  
 Time: 1:345  
 Received By: *Speckleberry*  
 Date:   
 Time:   
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address:   
 REMARKS: See Pg 1

Delivered By: (Circle One)   
 Sampler - UPS - Bus - Other:   
 Observed Temp. °C: -1.4  
 Corrected Temp. °C: -2.0  
 Sample Condition:   
 Cool Intact:  Yes  No  
 Checked By: *[Signature]*  
 Turnaround Time:   
 Standard Rush:     
 Bacteria (only) Sample Condition:   
 Cool Intact:  Yes  No  
 Corrected Temp. °C:   
 Thermometer ID #113  
 Correction Factor: -0.5°C

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

PAGE 5 OF 5

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC

Project Manager: See Pg 1

Address:

City:

Phone #:

Project #: 03C9012059

Project Name: Chiso 14 State Jet Pump Excavation

Project Location: 32.38511, -103.43594

Sampler Name: Meredith Roberts

FOR LAB USE ONLY

P.O. #:

Company: BTA O:1

Attn: See Pg 1

Address:

City:

State: Zip:

Phone #:

Fax #:

Lab I.D. Sample I.D.

Depth (feet)

H233049  
41

SW20

9-14'

(G)RAB OR (C)OMP.  
# CONTAINERS

GROUNDWATER  
WASTEWATER  
SOIL  
OIL  
SLUDGE  
OTHER:

ACID/BASE:  
ICE / COOL  
OTHER:

DATE

TIME

BTEX  
Chlorides  
TPH  
→ NR

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Relinquished By:

Relinquished By:

Date: 10-14-23  
Time: 1345

Received By:

Received By: Mlodrequey

Verbal Result:  Yes  No Add'l Phone #:  
All Results are emailed. Please provide Email address:

REMARKS: See Pg 1

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Observed Temp. °C

Corrected Temp. °C

Sample Condition Cool Intact

CHECKED BY: (Initials)

Turnaround Time:

Standard Rush

Bacteria (only) Sample Condition Cool Intact

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



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

July 13, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 STATE JET PUMP EXCAVATION

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 12:30.

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

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:	07/12/2023	Sampling Date:	07/12/2023
Reported:	07/13/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP EXCAVATION	Sampling Condition:	Cool & Intact
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38511-103.43594		

**Sample ID: FS 06 A 8' (H233554-01)**

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	07/12/2023	ND	1.82	91.0	2.00	0.314	
Toluene*	<0.050	0.050	07/12/2023	ND	1.81	90.4	2.00	1.01	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.79	89.4	2.00	0.0992	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.44	90.6	6.00	0.976	
Total BTEX	<0.300	0.300	07/12/2023	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	32.0	16.0	07/13/2023	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	07/13/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

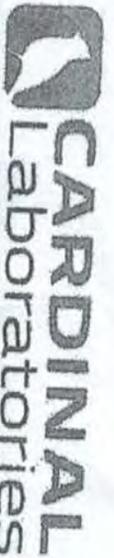
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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Project Manager: Hadiye Green P.O. #: BILL TO ANALYSIS REQUEST

Address: 3122 Nati Parks Hwy City: Carlsbad State: NM Zip: 88220

Phone #: 432-557-8895 Fax #:  Project Owner: Beta Oil Attn: Mr. Kelvin Beal

Project #: 030012059 Project Name: Chise 14 State Jet Pump City: Midland Address: 1045 Pecos St.

Project Location: 3238511, -103.4394 State: TX Zip: 79701

Sampler Name: Meredith Roberts Phone #:  Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	Chlorides	TPH
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
<u>H033554</u>	<u>FS06A</u>	<u>8'</u>	<input checked="" type="checkbox"/>	<u>1</u>	<input checked="" type="checkbox"/>							<u>7/12/23</u>	<u>1010</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Relinquished By: Meredith Roberts Date: 7-12-23 Time: 1230

Received By: Meredith Roberts Date: 7-12-23 Time: 1230

Remarks: Incident #: nAPP22058 37214

Delivered By: (Circle One) Observed Temp. °C 3.5 Corrected Temp. °C

Sampler - UPS - Bus - Other: Observed Temp. °C 3.5 Corrected Temp. °C

Turnaround Time: Standard Flush 24 Hr 24 Hr 24 Hr

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



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

July 31, 2023

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CHISO 14 STATE JET PUMP

Enclosed are the results of analyses for samples received by the laboratory on 07/24/23 12:35.

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

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: FS 22 4' (H233846-01)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	7330	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 91.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: FS 23 4' (H233846-02)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 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	1170	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 88.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.4 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: SW 21 0-4' (H233846-03)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 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	18000	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 90.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	07/24/2023	Sampling Date:	07/24/2023
Reported:	07/31/2023	Sampling Type:	Soil
Project Name:	CHISO 14 STATE JET PUMP	Sampling Condition:	** (See Notes)
Project Number:	03C2012059	Sample Received By:	Tamara Oldaker
Project Location:	BTA ( 32.38511-103.43594 )		

**Sample ID: SW 22 0-4' (H233846-04)**

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	07/28/2023	ND	1.96	98.2	2.00	6.04	
Toluene*	<0.050	0.050	07/28/2023	ND	2.07	103	2.00	2.52	
Ethylbenzene*	<0.050	0.050	07/28/2023	ND	2.05	102	2.00	6.01	
Total Xylenes*	<0.150	0.150	07/28/2023	ND	6.17	103	6.00	7.34	
Total BTEX	<0.300	0.300	07/28/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 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	11600	16.0	07/26/2023	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	07/27/2023	ND	195	97.6	200	11.6	
DRO >C10-C28*	<10.0	10.0	07/27/2023	ND	216	108	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	07/27/2023	ND					

Surrogate: 1-Chlorooctane 90.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

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

Company Name: Enslun  
 Project Manager: Hadlie Green  
 Address: 601 N. Marlandfield St #400  
 City: Midland State: TX Zip: 79701  
 Phone #: 432-557-8895 Fax #:   
 Project #: 03C2012059 Project Owner:   
 Project Name: Chiss 14 State Jet Pump  
 Project Location: 32, 38511, -103, 43594  
 Sampler Name: Peter Van Patten  
 P.O. #:   
 Company: BTA Oil  
 Attn: Kelton Beard  
 Address: 101 S. Rees St  
 City: Midland  
 State: TX Zip: 79701  
 Phone #: 432-682-3753  
 Fax #:   
**BILL TO**  
**ANALYSIS REQUEST**

Lab I.D.	Sample I.D.	Depth	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH	BTEX	Chlorides
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H233844	1	FS21	4'	1							7/24/23	1005	X	X	X
	2	FS22	4'	1								1010	X	X	X
	3	SWZ1	0-4'	1								1015	X	X	X
	4	SWZ2	0-4'	1								1020	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: *[Signature]* Date: 7-24-23  
 Received By: *[Signature]* Date: 7-24-23  
 Relinquished By: *[Signature]* Date: 7-23  
 Received By: *[Signature]* Date: 7-23

Delivered By: (Circle One) Observed Temp. °C 73  
 Sampler - UPS - Bus - Other: Corrected Temp. °C  
 Sample Condition: Cool Intact  Yes  No  
 Checked By: (Initials) *[Signature]*  
 Turnaround Time: Standard  Rush   
 Thermometer ID #140 Correction Factor 0°C  
 Bacteria (only) Sample Condition: Cool Intact  Yes  No  
 Observed Temp. °C Corrected Temp. °C

REMARKS: Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address:   
 Hgr@enslun.com, tworisky@enslun.com  
 Cooler temp Blank 1.4°

**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 385492

**QUESTIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nAPP2205837214
Incident Name	NAPP2205837214 CHISO 14 STATE JET PUMP AND EXCAVATION @ 0
Incident Type	Produced Water Release
Incident Status	Reclamation Report Received
Incident Facility	[fAPP2129434580] Chiso State 14

**Location of Release Source**

Please answer all the questions in this group.

Site Name	CHISO 14 STATE JET PUMP AND EXCAVATION
Date Release Discovered	02/26/2022
Surface Owner	Private

**Incident Details**

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

**Nature and Volume of Release**

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   Pump   Produced Water   Released: 165 BBL   Recovered: 70 BBL   Lost: 95 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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)	Jet Pump Failure. A plug on the manifold of a Jet Pump failed and allowed water from the supply tank to drain from the pump and proceed westward directly into an active excavation being conducted to remove previously contaminated soil. The volume of recovered water was taken from the excavation. The estimate of the volume of water released was calculated from tank gauge data.

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QUESTIONS, Page 2

Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>Yes</b>
Reasons why this would be considered a submission for a notification of a major release	<b>From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.</b>
<i>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.</i>	

**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 ENV Title: Environmental Manager Email: kbeaird@btaoil.com Date: 12/11/2023
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**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**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 26 and 50 (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 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 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	Greater than 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
<i>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.</i>	
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)	480
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
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	02/26/2022
On what date will (or did) the final sampling or liner inspection occur	10/03/2023
On what date will (or was) the remediation complete(d)	10/03/2023
What is the estimated surface area (in square feet) that will be reclaimed	5800
What is the estimated volume (in cubic yards) that will be reclaimed	5800
What is the estimated surface area (in square feet) that will be remediated	5800
What is the estimated volume (in cubic yards) that will be remediated	5800

*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.*

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Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

**Remediation Plan (continued)**

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.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(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	R360 ARTESIA LLC LANDFARM [FEEM0112340644]
<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	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	No

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 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: kbeaird@btaoil.com Date: 12/14/2023
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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.

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Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

**Deferral Requests Only**

*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.*

Requesting a deferral of the remediation closure due date with the approval of this submission	No
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Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	<b>293024</b>
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	<b>07/25/2023</b>
What was the (estimated) number of samples that were to be gathered	<b>15</b>
What was the sampling surface area in square feet	<b>5800</b>

**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	<b>Yes</b>
Have the lateral and vertical extents of contamination been fully delineated	<b>Yes</b>
Was this release entirely contained within a lined containment area	<b>No</b>
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	<b>Yes</b>
What was the total surface area (in square feet) remediated	<b>5800</b>
What was the total volume (cubic yards) remediated	<b>1700</b>
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	<b>Yes</b>
What was the total surface area (in square feet) reclaimed	<b>5800</b>
What was the total volume (in cubic yards) reclaimed	<b>5800</b>
Summarize any additional remediation activities not included by answers (above)	<b>All soil exceeding the most stringent Table I Closure Criteria has been removed. The excavation has been backfilled with non-waste containing material. Areas not needed for ongoing production activities will be reseeded within 90 days of approval.</b>

*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: kbeaird@btaoil.com Date: 12/14/2023
--	--

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Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

**Reclamation Report**

*Only answer the questions in this group if all reclamation steps have been completed.*

Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	3445
What was the total volume of replacement material (in cubic yards) for this site	510

*Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a 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.*

Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeded commence(d)	08/06/2024

Summarize any additional reclamation activities not included by answers (above)	Following backfill activities, the disturbed area was contoured to match the surrounding topography and the surface was prepared for seeding. Upon confirmation that the excavation was backfilled with non-waste containing material, the disturbed pasture area was seeded with NMSLO Sandy Loam Seed Mixture . The seed mix was applied via broadcast. The Site will be monitored for vegetation growth to ensure that reclamation activities were successful.
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*The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeded plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 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: 09/20/2024
--	---

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QUESTIONS, Page 8

Action 385492

**QUESTIONS (continued)**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**QUESTIONS**

<b>Revegetation Report</b>	
<i>Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.</i>	
Requesting a restoration complete approval with this submission	No
<i>Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.</i>	

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CONDITIONS  
 Action 385492

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 385492
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

**CONDITIONS**

Created By	Condition	Condition Date
scwells	None	10/3/2024