



**ENSOLUM**

**APPROVED**

June 9, 2023

**New Mexico Oil Conservation Division**

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

**Re: Closure Request  
Chiso 14 #3 & 4 / Chiso 14 State 8711 #3H Flare Stack  
Incident Numbers nOY1829542961 and nCH1903548008  
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack (collectively referred to as the Site). The purpose of the excavation and soil sampling activities was to address impacts to soil resulting from two release events at the Site. Based on the excavation activities and laboratory analytical results from soil sampling events, BTA is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Numbers nOY1829542961 and nCH1903548008.

**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 (32.38521°, -103.435077°) and is associated with oil and gas exploration and production operations on private land owned by Merchant Livestock Company.

nOY1829542961

On October 4, 2018, a dump valve on a scrubber failed, causing approximately less than 5 barrels (bbls) of crude oil to be sent to the flare. The crude oil ignited and extinguished itself after reaching the ground. The fire affected the well pad beneath the flare and the surrounding pasture. BTA reported the release to the New Mexico Oil Conservation Division (NMOCD) and submitted a *Release Notification Form C-141* (Form C-141) on October 19, 2018. The release was assigned Incident Number nOY1829542961.

nCH1903548008

On January 8, 2019, a dump valve on a separator failed, causing approximately 2 bbls of crude oil to be sent to the flare. The crude oil ignited and extinguished itself after reaching the ground. The fire affected the well pad beneath the flare. BTA reported the release to the NMOCD and submitted a Form C-141 on January 9, 2019. The release was assigned Incident Number nCH1903548008.

BTA Oil Producers, LLC  
Closure Request  
Chiso 14 #3 / 4 and Chiso 14 State 711 #3H Flare Stack

## 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-141s, 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 below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater is New Mexico Office of the State Engineer (NMOSE) well CP-01682, located approximately 0.14 miles southwest of the Site. The groundwater well has a reported depth to groundwater of 42 feet bgs and a total depth of 294 feet bgs. Ground surface elevation at the groundwater well location is 3,42 feet above mean sea level (amsl), which is approximately 23 feet lower in elevation than the Site. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a riverine, located approximately 2,773 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

## DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between May 24, 2023, and June 1, 2023, Ensolum personnel were at the Site to evaluate the release extents based on the Form C141s and visual observations. No visible indications of the historical releases were observed during the Site visit. Five delineation boreholes (SS01 through SS05) were advanced via hand-auger within the inferred release areas, to assess for the presence or absence of impacted soil. Delineation soil samples were collected from each borehole at depths ranging from 0.25 feet to 4 feet bgs. In addition, four soil samples (SS06 through SS09) were collected around the release extent from a depth of 0.25 feet bgs to assess the lateral extent of the impacted soil. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Visual observations and field screening results were logged on lithologic soil sampling logs which are included in Appendix B. The inferred release areas and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during site assessment and a photographic log is included in Appendix C.

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

BTA Oil Producers, LLC  
Closure Request  
Chiso 14 #3 / 4 and Chiso 14 State 711 #3H Flare Stack

analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO) and TPH-diesel range organics (DRO) , and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 4500.0.

Laboratory analytical results for delineation soil samples SS06 through SS09 indicated all COC concentrations were compliant with the Site Closure Criteria and successfully defined the lateral extent of the inferred release areas. Laboratory analytical results for delineation soil samples SS01, SS03, and SS05, collected at depths ranging from 0.25 feet to 4 feet bgs within the inferred release areas, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for SS02 and SS04, collected within the inferred area at a depth of 0.25 feet bgs, indicated TPH concentrations exceeded the Site Closure Criteria. Based on laboratory analytical results for soil sample SS02 and SS04, excavation activities were warranted.

## EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June 6, 2023 and June 7, 2023, Ensolum personnel were at the Site to oversee excavation activities based on laboratory analytical results for soil samples SS02 and SS04. Excavation activities were performed utilizing hand shovels and back-hoe. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a maximum depth of 1.25 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 sidewall of the excavation extents. 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. Due to the shallow depth of the excavation extent, the sidewalls were incorporated into the floor samples. Composite soil samples FS01 through FS07 were collected from the floor of the excavation at a depth of 1-foot bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above.

Laboratory analytical results for the excavation soil samples FS02 through FS07 indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for soil sample FS01 indicated TPH concentrations exceeded the Site Closure Criteria at 1-foot bgs. Additional soil was removed in the vicinity of floor sample FS01 and subsequent sample FS01A was collected from the floor of the excavation at a depth of 1.25 feet bgs. The excavation extent and excavation soil sample locations are presented on Figure 3. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix D.

The excavation area measured approximately 1,366 square feet. A total of approximately 63 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the OWL Landfill Services, LLC in Jal, New Mexico.

## CLOSURE REQUEST

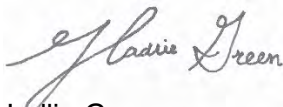
Site assessment and excavation activities were conducted at the Site to address impacted soil resulting from two historical release events at the Site. Laboratory analytical results for the excavation soil samples, collected from the final excavation extents, indicated all COCs were compliant with the Site Closure Criteria. Delineation soil samples indicated all COCs were compliant with the Site Closure Criteria confirming the lateral and vertical extent of the inferred release areas. Based on the soil sample laboratory analytical results, no further remediation was required.

BTA Oil Producers, LLC  
Closure Request  
Chiso 14 #3 / 4 and Chiso 14 State 711 #3H Flare Stack

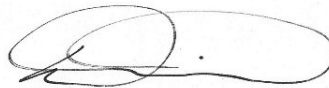
No visible indications of the releases were observed, and excavation of impacted soil has mitigated impacts at this Site. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Numbers nOY1829542961 and nCH1903548008. Notifications submitted to the NMOCD are included in Appendix E and the final Form C-141 is included in Appendix F.

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

Sincerely,  
**Ensolum, LLC**



Hadlie Green  
Project Geologist



Daniel R. Moir, PG  
Senior Managing Geologist

cc: Kelton Beaird, BTA  
Nathan Sirgo, BTA  
Merchant Livestock Company

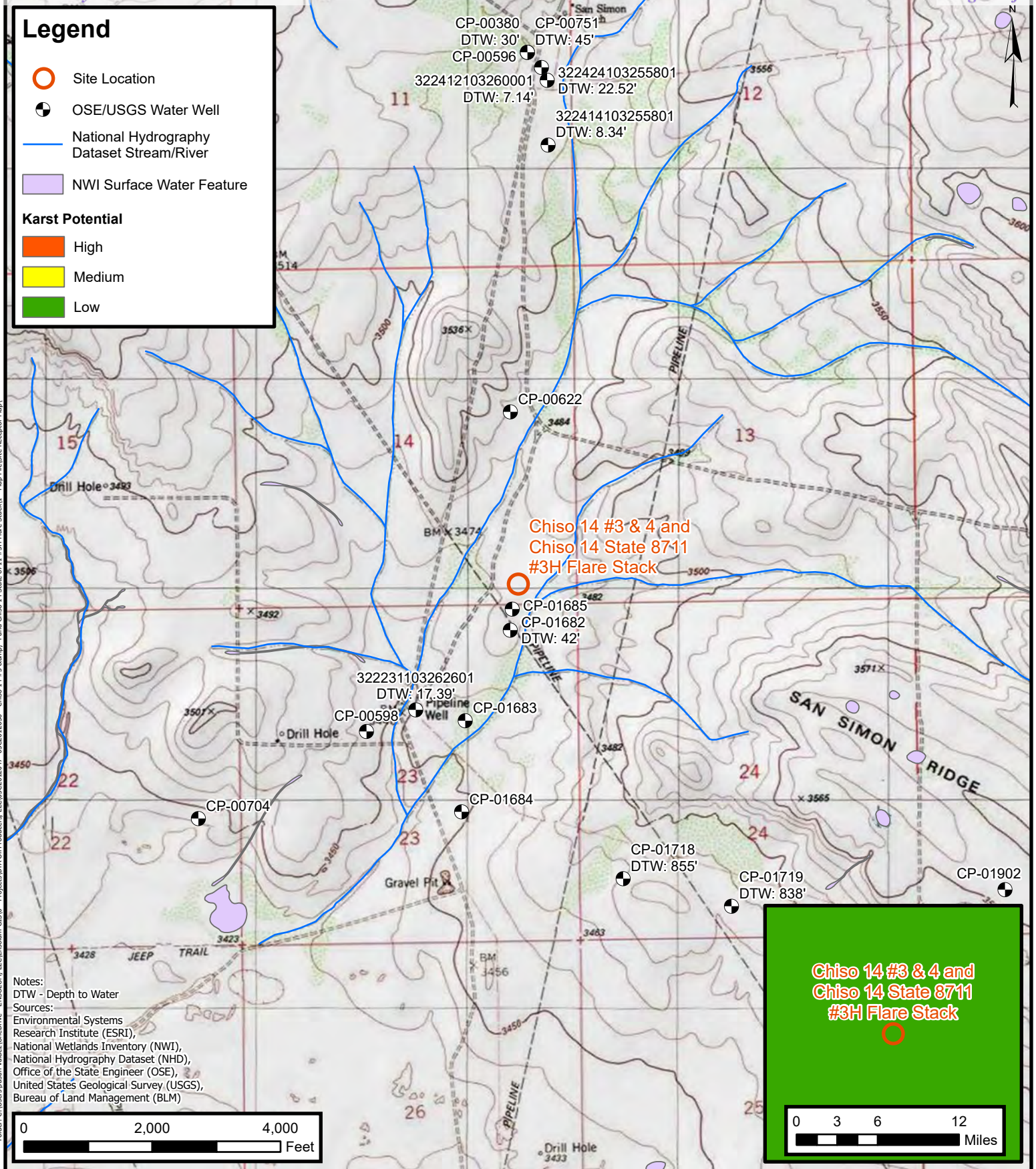
Appendices:

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	Referenced Well Records
Appendix B	Lithologic/Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Final C-141



FIGURES





**Site Receptor Map**  
 BTA Oil Producers, LLC  
 Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack  
 Incident Number: nOY1829542961 and nCH1903548008  
 Unit P, Sec 14, 22S, R34E  
 Lea County, New Mexico

**FIGURE**  
**1**

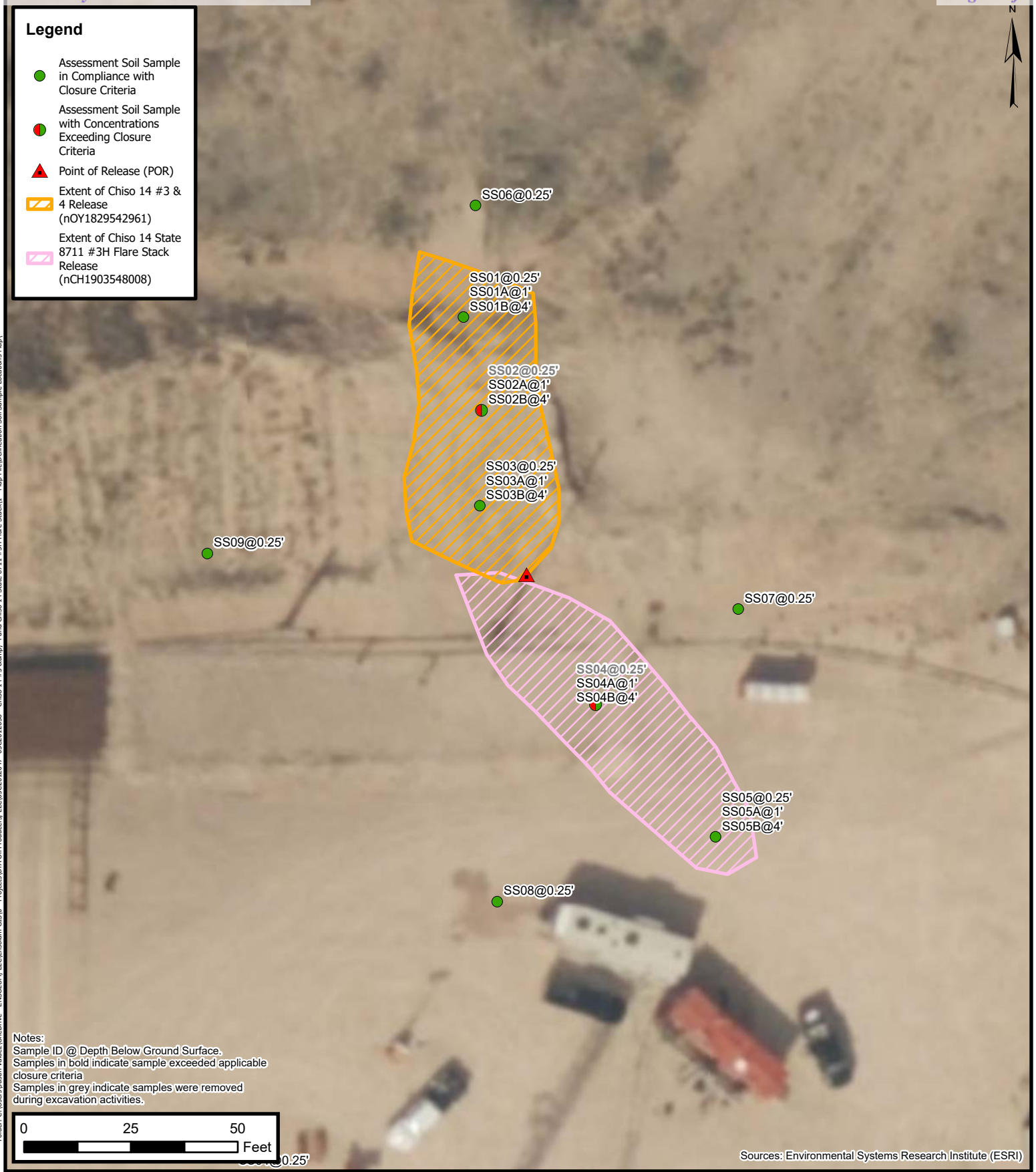


**Legend**

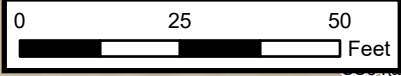
- Assessment Soil Sample in Compliance with Closure Criteria
- Assessment Soil Sample with Concentrations Exceeding Closure Criteria
- ▲ Point of Release (POR)
- Extent of Chiso 14 #3 & 4 Release (nOY1829542961)
- Extent of Chiso 14 State 8711 #3H Flare Stack Release (nCH1903548008)



Folder: C:\Users\Justin Velazquez\OneDrive - ENSOLUM, LLC\Ensolium GIS\0 - Projects\BTA Oil Producers, LLC\03C20202047 - 03C2012056 - Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack\1 - Map File\Definition Soil Sample Locations Map\



**Notes:**  
 Sample ID @ Depth Below Ground Surface.  
 Samples in bold indicate sample exceeded applicable closure criteria  
 Samples in grey indicate samples were removed during excavation activities.



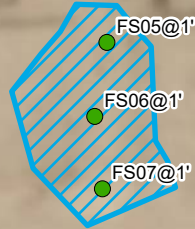
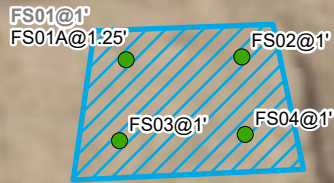
# Delineation Soil Sample Locations

BTA Oil Producers, LLC  
 Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack  
 Incident Number: nOY1829542961 and nCH1903548008  
 Unit P, Sec 14, 22S, R34E  
 Lea County, New Mexico

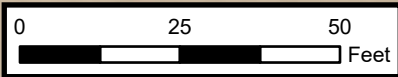
**FIGURE**  
**2**

### Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Extent



Notes:  
 Sample ID @ Depth Below Ground Surface.  
 Samples in bold indicate sample exceeded applicable closure criteria  
 Samples in grey indicate samples were removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI)

## Excavation Soil Sample Locations

BTA Oil Producers, LLC  
 Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack  
 Incident Number: nOY1829542961 and nCH1903548008  
 Unit P, Sec 14, 22S, R34E  
 Lea County, New Mexico

### FIGURE

### 3







TABLES



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack**  
**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>Delineation Soil Samples</b>										
SS01	05/24/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS01A	06/01/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS01B	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS02	05/24/2023	0.25	<0.050	<0.300	<10.0	347	129	347	476	48.0
SS02A	06/01/2023	1	<0.050	<0.300	<10.0	42.7	39.2	42.7	81.9	32.0
SS02B	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS03	05/24/2023	0.25	<0.050	<0.300	<10.0	20.6	<10.0	20.6	20.6	64.0
SS03A	06/01/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03B	06/01/2023	4	<0.050	<0.300	<10.0	52.0	23.9	52.0	75.9	48.0
SS04	05/24/2023	0.25	<0.050	<0.300	<10.0	1,280	864	1,280	2,144	80.0
SS04A	06/01/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS04B	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS05	05/24/2023	0.25	<0.050	<0.300	<10.0	14.7	<10.0	14.7	14.7	352
SS05A	06/01/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS05B	06/01/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SS06	05/24/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS07	05/24/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SS08	05/24/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SS09	05/24/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**Chiso 14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack**  
**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>Excavation Soil Samples</b>										
FS01	06/06/2023	1	<0.050	<0.300	<10.0	129	48.9	129	178	32.0
FS01A	06/07/2023	1.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS02	06/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS03	06/06/2023	1	<0.050	<0.300	<10.0	56.5	12.1	56.5	68.6	32.0
FS04	06/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS05	06/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS06	06/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS07	06/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0

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

Grey text indicates sample was excavated





## APPENDIX A

### Referenced Well Records

---



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 SEP 10 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 NM	ZIP 88267
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 22	SECONDS 59.66	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
	LONGITUDE -103	26	7.87	W	* DATUM REQUIRED: WGS 84		
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)

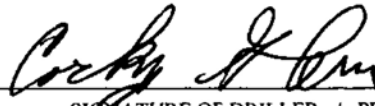
FILE NO. CP-1682	POD NO. 1	TRN NO. 632044
LOCATION 212 Sec 23 T22S R 34E	WELL TAG ID NO. 2062A	PAGE 1 OF 2

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	



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	
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



# WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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

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

FOR OSE INTERNAL USE

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


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

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	5	5	Sand	Y ✓ N	
5	25	20	Caliche	Y ✓ N	
25	125	100	Sand & Red Clay	Y ✓ N	
125	550	425	Red Clay & Shale	Y ✓ N	
550	800	250	Red Shale & Clay	Y ✓ N	
800	855	55	Sandrock & Shale	✓ Y N	
855	918	63	Sandrock & Shale	✓ Y N	
918	950	32	Sandrock & Blue & Red Shale	✓ Y N	
950	1,139	189	Sand	✓ Y N	120.00
1,139	1,172	33	Red Shale	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input checked="" type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:				TOTAL ESTIMATED WELL YIELD (gpm): 120.00	

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:  0' to 800' drilled with mud. 800' to 1,172' drilled with air and foam.	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:		

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: 5/27/19

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO.	CP-1718	POD NO.	1
LOCATION	225.34E.24.3.3.2	TRN NO.	628247
		WELL TAG ID NO.	NIA
			PAGE 2 OF 2








## APPENDIX B

### Lithologic Soil Sampling Logs


---


								Sample Name: SS01	Date: 6/1/2023
								Site Name: Chiso 14 State 8711 #3H Flare Stack/ #3&4 Tank Battery	
LITHOLOGIC / SOIL SAMPLING LOG								Incident Number:	
Coordinates: 32.385817, -103.435085								Job Number: 03C2012056/ 03C2012047	
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.								Logged By: MR	Method: Backhoe
								Hole Diameter: NA	Total Depth: 4
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
						0	SP-SM	0-4' SAND with trace silt, medium to fine grained, medium brown, poorly sorted, no stain, no odor, dry.	
D	<173.6	0.0	N	SS01A	1	1			
D	<173.6	0.4				2			
D	<173.6	0.6				3			
D	<173.6	0.3	N	SS01B	4	4		Total Depth @ 4' bgs.	
						TD			

								Sample Name: SS02	Date: 6/1/2023
								Site Name: Chiso 14 State 8711 #3H Flare Stack/ #3&4 Tank Battery	
LITHOLOGIC / SOIL SAMPLING LOG								Incident Number:	
Coordinates: 32.385695, -103.435074								Job Number: 03C2012056/ 03C2012047	
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.								Logged By: MR	Method: Hand Auger
								Hole Diameter: 4"	Total Depth: 4'
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
M	<173.6	0.4	N	SS02A	1	1	SP-SM	0-4' SAND with trace silt, medium to fine grained, medium brown, poorly sorted, no stain, no odor, moist.	
M	<173.6	0.2	N			2			
M	<173.6	0.5	N			3			
M	<173.6	0.1	N	SS02B	4	4			
								TD	Total Depth @ 4' bgs.

								Sample Name: SS03	Date: 6/1/2023
								Site Name: Chiso 14 State 8711 #3H Flare Stack/ #3&4 Tank Battery	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								Incident Number:	
								Job Number: 03C2012056/ 03C2012047	
Coordinates: 32.385695, -103.435074								Logged By: MR	Method: Hand Auger
								Hole Diameter: 4"	Total Depth: 4'
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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	<173.6	0.3	N	SS03A	1	1	SP-SM	0-4' SAND with trace silt, medium to fine grained, medium brown, poorly sorted, no stain, no odor, moist.	
M	<173.6	0.6	N			2			
M	<173.6	0.5	N			3			
M	<173.6	0.2	N	SS03B	4	4			
								TD	Total Depth @ 4' bgs.



								Sample Name: SS04	Date: 6/1/2023
								Site Name: Chiso 14 State 8711 #3H Flare Stack/ #3&4 Tank Battery	
LITHOLOGIC / SOIL SAMPLING LOG								Incident Number:	
Coordinates: 32.385564, -103.435008								Job Number: 03C2012056/ 03C2012047	
								Logged By: MR	Method: Backhoe
								Hole Diameter: NA	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	
						0	SP-SM	0-4' SAND with trace silt, medium to fine grained, medium brown, poorly sorted, no stain, no odor, dry.	
D	<173.6	0.0	N	SS04A	1	1			
D	<173.6	0.1	N			2			
D	<173.6	0.0	N			3			
D	<173.6	0.2	N	SS04B	4	4	CCHE	4' CALICHE with sand, light/medium brown, poorly sorted, sub-rounded grains, no stain/odor, dry.	
						TD		Total Depth @ 4' bgs.	

								Sample Name: SS05		Date: 6/1/2023					
								Site Name: Chiso 14 State 8711 #3H Flare Stack/ #3&4 Tank Battery				Incident Number:			
								Job Number: 03C2012056/ 03C2012047				Logged By: MR		Method: Backhoe	
								Coordinates: 32.385480, -103.434899				Hole Diameter: NA		Total Depth: 4'	
<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	CCHE	0-2' CALICHE, medium brown, poorly sorted, sub-rounded grains, no stain, no odor, dry.							
D	<173.6	0.0	N	SS05A	1	1									
D	<173.6	0.0	N			2	SP-SM	2-4' SAND with silt, medium to fine grained, med. brown, poorly sorted, no stain, no odor, dry.							
D	<173.6	0.0	N			3									
D	<173.6	0.1	N	SS05B	4	4	CCHE	4' CALICHE with sand, light/medium brown, poorly sorted, sub-rounded grains, no stain/odor, dry.							
						TD		Total Depth @ 4' bgs.							



## APPENDIX C

### Photographic Log

---



**Photographic Log**

BTA Oil Producers, LLC

Chiso14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack

Incident Numbers nOY1829542961 and nCH1903548008



Photograph: 1 Date: 10/4/2018  
Description: Incident Number nOY1829542961 release footprint

Photograph: 2 Date: 1/8/2019  
Description: Incident Number nCH1903548008 release footprint



Photograph: 3 Date: 5/25/2023  
Description: Assessment activities  
View: southeast

Photograph: 4 Date: 6/1/2023  
Description: Assessment activities  
View: West





**Photographic Log**

BTA Oil Producers, LLC

Chiso14 #3 & 4 and Chiso 14 State 8711 #3H Flare Stack

Incident Numbers nOY1829542961 and nCH1903548008



Photograph: 1 Date: 6/1/2023  
Description: Assessment activities  
View: Northwest



Photograph: 2 Date: 6/6/2023  
Description: Excavation activities  
View: Northwest



Photograph: 3 Date: 6/6/2023  
Description: Excavation activities  
View: Southeast



Photograph: 4 Date: 6/6/2023  
Description: Excavation activities  
View: North



## APPENDIX D

### Laboratory Analytical Reports & Chain of Custody Documentation

---



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

---

June 02, 2023

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CHISO 14 #3 & 4 TANK FLARE

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

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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/02/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 01 0.25' (H232703-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.08	104	2.00	1.75	
Toluene*	<0.050	0.050	05/27/2023	ND	2.11	105	2.00	0.353	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.19	110	2.00	0.0157	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.41	107	6.00	0.392	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	178	88.8	200	5.72	
DRO >C10-C28*	<10.0	10.0	05/30/2023	ND	181	90.4	200	5.11	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 99.0 % 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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/02/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 02 0.25' (H232703-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.08	104	2.00	1.75	
Toluene*	<0.050	0.050	05/27/2023	ND	2.11	105	2.00	0.353	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.19	110	2.00	0.0157	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.41	107	6.00	0.392	
Total BTEX	<0.300	0.300	05/27/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	178	88.8	200	5.72	
DRO >C10-C28*	347	10.0	05/30/2023	ND	181	90.4	200	5.11	
EXT DRO >C28-C36	129	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 80.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

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:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/02/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 03 0.25' (H232703-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	178	88.8	200	5.72	
<b>DRO &gt;C10-C28*</b>	<b>20.6</b>	10.0	05/30/2023	ND	181	90.4	200	5.11	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 70.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.1 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/02/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 04 0.25' (H232703-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>80.0</b>	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	199	99.5	200	3.39	
<b>DRO &gt;C10-C28*</b>	<b>1280</b>	10.0	05/30/2023	ND	181	90.6	200	22.0	
<b>EXT DRO &gt;C28-C36</b>	<b>864</b>	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 148 % 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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/02/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 05 0.25' (H232703-05)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>352</b>	16.0	05/30/2023	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/02/2023	ND	199	99.5	200	3.39	
<b>DRO &gt;C10-C28*</b>	<b>14.7</b>	10.0	06/02/2023	ND	181	90.6	200	22.0	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 94.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.5 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager





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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QR-04 The RPD for the BS/BSD was outside of historical limits.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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

*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  
**Project Manager:** Hadlie Green  
**Address:** 601 N. Marientfeld St. STE 400  
**City:** Midland **State:** TX **Zip:** 79701  
**Phone #:** 432-557-8895 **Fax #:**  
**Project #:** 03C2012047 **Project Owner:**  
**Project Name:** Chiso 14 #3 & 4 Tank Flare  
**Project Location:** 32.385621, -103.435077  
**Sampler Name:** Dmirty Nilkanorov  
**FOR LAB USE ONLY**

**BILL TO**

**ANALYSIS REQUEST**

**P.O. #:**  
**Company:** BTA Oil  
**Attn:** Kevin Jones  
**Address:** 104 S Peccos St  
**City:** Midland,  
**State:** TX **Zip:** 79701  
**Phone #:** 432-312-2203  
**Fax #:**

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV.	DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:				
4232103	1	0.25'	G	1	X								5/24/23	0940	TPH
	2	0.25'	G	1	X								0950	1000	BTEX
	3	0.25'	G	1	X								1010	1010	CHLORIDES
	4	0.25'	G	1	X								1020	1020	
	5	0.25'	G	1	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 analysis. All claims including those for negligence and any other cause whatsoever shall be oriented toward the client 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 remedies or otherwise.

**Relinquished By:** [Signature] **Date:** 5/24/23 **Received By:** [Signature] **Date:** 5/24/23  
**Relinquished By:** [Signature] **Date:** 5/24/23 **Received By:** [Signature] **Date:** 5/24/23

**Delivered By:** (Circle One) **Observed Temp. °C:** 6.4 **Sample Condition:**  Cool  Intact  Yes  No  
**Sampler - UPS - Bus - Other:** **Corrected Temp. °C:** 5.8 **Checked By:** [Signature] **Checked By:** [Signature] (Initials)

**Turnaround Time:**  Standard  Rush **Bacteria (only) Sample Condition:**  Cool  Intact  Yes  No  
**Thermometer ID #113** **Correction Factor -0.5°C** **Observed Temp. °C:** **Corrected Temp. °C:**

**REMARKS:**  
 Verbal Result:  Yes  No **Add'l Phone #:**  
 All Results are emailed. Please provide Email address: hggreen@ensolum.com  
 dhnikanorov@ensolum.com  
 Blandings@ensolum.com



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

---

June 01, 2023

HADLIE GREEN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: CHISO 14 #3 & 4 TANK FLARE

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

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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 06 0.25' (H232704-01)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	199	99.5	200	3.39	
DRO >C10-C28*	<10.0	10.0	05/30/2023	ND	181	90.6	200	22.0	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 07 0.25' (H232704-02)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	05/30/2023	ND	400	100	400	7.69	

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	05/30/2023	ND	199	99.5	200	3.39	
DRO >C10-C28*	<10.0	10.0	05/30/2023	ND	181	90.6	200	22.0	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 94.3 % 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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 08 0.25' (H232704-03)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/30/2023	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	05/30/2023	ND	199	99.5	200	3.39	
DRO >C10-C28*	<10.0	10.0	05/30/2023	ND	181	90.6	200	22.0	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 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, LLC  
 HADLIE GREEN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	05/26/2023	Sampling Date:	05/24/2023
Reported:	06/01/2023	Sampling Type:	Soil
Project Name:	CHISO 14 #3 & 4 TANK FLARE	Sampling Condition:	Cool & Intact
Project Number:	03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.385621,-103.435077		

**Sample ID: SS 09 0.25' (H232704-04)**

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/27/2023	ND	2.01	101	2.00	0.179	
Toluene*	<0.050	0.050	05/27/2023	ND	2.06	103	2.00	0.733	
Ethylbenzene*	<0.050	0.050	05/27/2023	ND	2.03	101	2.00	0.0765	
Total Xylenes*	<0.150	0.150	05/27/2023	ND	6.30	105	6.00	1.20	
Total BTEX	<0.300	0.300	05/27/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	05/30/2023	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	05/30/2023	ND	199	99.5	200	3.39	
DRO >C10-C28*	<10.0	10.0	05/30/2023	ND	181	90.6	200	22.0	
EXT DRO >C28-C36	<10.0	10.0	05/30/2023	ND					

Surrogate: 1-Chlorooctane 84.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.6 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-04 The RPD for the BS/BSD was outside of historical 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

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**

<b>Company Name:</b> Ensolum, LLC <b>Project Manager:</b> Hadlie Green <b>Address:</b> 601 N. Marlenfeld St. STE 400 <b>City:</b> Midland <b>Phone #:</b> 432-557-8895 <b>Project #:</b> 03C2012047 <b>Project Name:</b> Chiso 14 #3 & 4 Tank Flare <b>Project Location:</b> 32.385621, -103.435077 <b>Sampler Name:</b> Dmitry Nikanorov		<b>State:</b> TX <b>Zip:</b> 79701 <b>Attn:</b> Kevin Jones <b>Address:</b> 104 S Pecos St <b>City:</b> Midland, <b>State:</b> TX <b>Zip:</b> 79701 <b>Phone #:</b> 432-312-2203 <b>Fax #:</b>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>	
<b>FOR LAB USE ONLY</b>		<b>Sample Depth (feet)</b> (G)RAB OR (C)OMP. # CONTAINERS MATRIX: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER: PRESERV: ACID/BASE, ICE / COOL, OTHER: SAMPLING: DATE, TIME		P.O. #: Company: BTA Oil Address: 104 S Pecos St City: Midland, State: TX Zip: 79701 Phone #: 432-312-2203 Fax #:		BTX TPH CHLORIDES	
<b>Lab I.D.</b> H232704 1 2 3 4		S S O 1.6 S S O 2.7 S S O 3.8 S S O 4.9 S S O 5		0.25' 0.25' 0.25' 0.25' 0.25'		G 1 G 1 G 1 G 1 G 1	
Date: 5/24/23 Time: 0725 Received By: [Signature]		Date: 5/24/23 Time: 1030 Received By: [Signature]		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: All Results are emailed. Please provide Email address: hgreen@ensolum.com Bdnemings@ensolum.com dnikanorov@ensolum.com		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 Correction Factor -0.5°C Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Observed Temp. °C <input type="checkbox"/> Corrected Temp. °C	
<b>Relinquished By:</b> [Signature] Date: 5/26/23 Time: 1205 Received By: [Signature]		Date: 5/26/23 Time: 1030 Received By: [Signature]		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 Correction Factor -0.5°C Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Observed Temp. °C <input type="checkbox"/> Corrected Temp. °C		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 Correction Factor -0.5°C Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Observed Temp. °C <input type="checkbox"/> Corrected Temp. °C	



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

---

June 05, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 (STATE 8711 #3H/ #3 & #4)

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

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder".

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 01 A 1' (H232786-01)**

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

Surrogate: 4-Bromofluorobenzene (PID) 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	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 71.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 71.5 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 01 B 4' (H232786-02)**

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

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.7 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 02 A 1' (H232786-03)**

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

Surrogate: 4-Bromofluorobenzene (PID) 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
<b>Chloride</b>	<b>32.0</b>	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
<b>DRO &gt;C10-C28*</b>	<b>42.7</b>	10.0	06/02/2023	ND	172	85.9	200	0.336	
<b>EXT DRO &gt;C28-C36</b>	<b>39.2</b>	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 72.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.0 % 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.

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 02 B 4' (H232786-04)**

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

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/02/2023	ND	416	104	400	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 74.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.0 % 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.

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 03 A 1' (H232786-05)**

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

Surrogate: 4-Bromofluorobenzene (PID) 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	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 69.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.6 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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





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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 03 B 4' (H232786-06)**

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

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>48.0</b>	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
<b>DRO &gt;C10-C28*</b>	<b>52.0</b>	10.0	06/02/2023	ND	172	85.9	200	0.336	
<b>EXT DRO &gt;C28-C36</b>	<b>23.9</b>	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 68.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 70.2 % 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.

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 04 A 1' (H232786-07)**

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

Surrogate: 4-Bromofluorobenzene (PID) 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	64.0	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 74.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.2 % 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.

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 04 B 4' (H232786-08)**

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

Surrogate: 4-Bromofluorobenzene (PID) 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	48.0	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 73.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.4 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 05 A 1' (H232786-09)**

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

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 73.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.3 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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



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

**Analytical Results For:**

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

Received:	06/02/2023	Sampling Date:	06/01/2023
Reported:	06/05/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Shalyn Rodriguez
Project Location:	32.38560,-103.43508		

**Sample ID: SS 05 B 4' (H232786-10)**

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

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/02/2023	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	06/02/2023	ND	181	90.6	200	2.18	
DRO >C10-C28*	<10.0	10.0	06/02/2023	ND	172	85.9	200	0.336	
EXT DRO >C28-C36	<10.0	10.0	06/02/2023	ND					

Surrogate: 1-Chlorooctane 62.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 61.7 % 49.1-148

Cardinal Laboratories

\* = Accredited Analyte

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

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





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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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

Mike Snyder For 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 Nat'l Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 432.557.8895 Fax #:   
 Project #: 03C2012056/03C2012041  
 Project Name: CHISO 14 State #31 Tank Battery  
 Project Location: 32.38560, -103.43508  
 Sampler Name: Meredith Roberts  
 P.O. #:   
 Company: BTA Oil  
 Attn: Kelton Beaird  
 Address: 104 S. Peccas St.  
 City: Midland  
 State: TX Zip: 79701  
 Fax #:   
 PRESERV:    
 SAMPLING:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	Chlorides
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H232786	SS01A	1'	G								6/1/23	0900	X	X	X
	SS01B	4'										0915	X	X	X
	SS02A	1'										0930	X	X	X
	SS02B	4'										0935	X	X	X
	SS03A	1'										0940	X	X	X
	SS03B	4'										0955	X	X	X
	SS04A	1'										1000	X	X	X
	SS04B	4'										1015	X	X	X
	SS05A	1'										1030	X	X	X
	SS05B	4'										1035	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 causes 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: *Hadlie Green* Date: 6/1/23 Received By: *MWR*  
 Time: 8:09  
 Date: 6/1/23 Received By: *Hadlie Green*  
 Time: 8:34  
 Observed Temp.: -0.4°C  
 Corrected Temp.: -1.0°C  
 Sample Condition:  Cool  Intact  
 Turnaround Time: Standard  Rush  24 hr  
 Bacteria (only)  Sample Condition  Cool  Intact  
 Thermometer ID #113  
 Correction Factor -0.5°C  
 Verbal Result:  Yes  No Add'l Phone #: *mrberts@ensolum.com*  
 All Results are emailed. Please provide Email address: *mrberts@ensolum.com*  
 REMARKS: *Hadlie Green*  
 CHECKED BY: *Hadlie Green* (Initials)  
 Turnaround Time: Standard  Rush  24 hr  
 Bacteria (only)  Sample Condition  Cool  Intact  
 Thermometer ID #113  
 Correction Factor -0.5°C

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



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

---

June 07, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 (STATE 8711 #3H/ #3 & #4)

Enclosed are the results of analyses for samples received by the laboratory on 06/06/23 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:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 01 1' (H232862-01)**

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	06/06/2023	ND	2.21	111	2.00	7.90	
Toluene*	<0.050	0.050	06/06/2023	ND	2.24	112	2.00	7.78	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.31	115	2.00	6.58	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.79	113	6.00	7.34	
Total BTEX	<0.300	0.300	06/06/2023	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	32.0	16.0	06/06/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5	
DRO >C10-C28*	129	10.0	06/06/2023	ND	211	106	200	20.9	
EXT DRO >C28-C36	48.9	10.0	06/06/2023	ND					

Surrogate: 1-Chlorooctane 99.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 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:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 02 1' (H232862-02)**

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	06/06/2023	ND	2.38	119	2.00	6.34	
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57	
Total BTEX	<0.300	0.300	06/06/2023	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	32.0	16.0	06/06/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5	
DRO >C10-C28*	<10.0	10.0	06/06/2023	ND	211	106	200	20.9	
EXT DRO >C28-C36	<10.0	10.0	06/06/2023	ND					

Surrogate: 1-Chlorooctane 81.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.9 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 03 1' (H232862-03)**

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	06/06/2023	ND	2.38	119	2.00	6.34		
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57		
Total BTEX	<0.300	0.300	06/06/2023	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	32.0	16.0	06/06/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5		
DRO >C10-C28*	56.5	10.0	06/06/2023	ND	211	106	200	20.9		
EXT DRO >C28-C36	12.1	10.0	06/06/2023	ND						

Surrogate: 1-Chlorooctane 81.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.4 % 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:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 04 1' (H232862-04)**

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	06/06/2023	ND	2.38	119	2.00	6.34		
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57		
Total BTEX	<0.300	0.300	06/06/2023	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	06/06/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5		
DRO >C10-C28*	<10.0	10.0	06/06/2023	ND	211	106	200	20.9		
EXT DRO >C28-C36	<10.0	10.0	06/06/2023	ND						

Surrogate: 1-Chlorooctane 80.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 05 1' (H232862-05)**

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	06/06/2023	ND	2.38	119	2.00	6.34	
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57	
Total BTEX	<0.300	0.300	06/06/2023	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	64.0	16.0	06/06/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5	
DRO >C10-C28*	<10.0	10.0	06/06/2023	ND	211	106	200	20.9	
EXT DRO >C28-C36	<10.0	10.0	06/06/2023	ND					

Surrogate: 1-Chlorooctane 87.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.6 % 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:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 06 1' (H232862-06)**

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	06/06/2023	ND	2.38	119	2.00	6.34	
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49	
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32	
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57	
Total BTEX	<0.300	0.300	06/06/2023	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	64.0	16.0	06/06/2023	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5	
DRO >C10-C28*	<10.0	10.0	06/06/2023	ND	211	106	200	20.9	
EXT DRO >C28-C36	<10.0	10.0	06/06/2023	ND					

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.7 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	06/06/2023	Sampling Date:	06/06/2023
Reported:	06/07/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 07 1' (H232862-07)**

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	06/06/2023	ND	2.38	119	2.00	6.34		
Toluene*	<0.050	0.050	06/06/2023	ND	2.36	118	2.00	5.49		
Ethylbenzene*	<0.050	0.050	06/06/2023	ND	2.30	115	2.00	6.32		
Total Xylenes*	<0.150	0.150	06/06/2023	ND	6.99	116	6.00	6.57		
Total BTEX	<0.300	0.300	06/06/2023	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	48.0	16.0	06/06/2023	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/06/2023	ND	209	105	200	24.5		
DRO >C10-C28*	<10.0	10.0	06/06/2023	ND	211	106	200	20.9		
EXT DRO >C28-C36	<10.0	10.0	06/06/2023	ND						

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.2 % 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

- QR-04            The RPD for the BS/BSD was outside of historical limits.
- 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

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*

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 Project Manager: Hadlie Green Address: 3122 Nati Parks Hwy City: Carlsbad State: NH Zip: 88220 Phone #: 432.557.8895 Fax #: 88220 Project #: 03C202056/03202021 Project Owner: CHISO 14 STATE 8TH #3A FLARE STACK/ CHISO 14 #3+4 TANK BATTERY Project Location: 32.38560, -103.43508 Sampler Name: Meredith Roberts FOR LAB USE ONLY		<b>BILL TO</b> P.O. #: _____ Company: BTA Oil Attn: Kelton Beard Address: 104S.PecosSt. City: Midland State: TX Zip: 79701 Phone #: _____ Fax #: _____		<b>ANALYSIS REQUEST</b>							
Lab I.D. H232862 Sample I.D. FS01 2 FS02 3 FS03 4 FS04 5 FS05 6 FS06 7 FS07	Depth (feet) 1' 1' 1' 1' 1' 1' 1'	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :	MATRIX PRESERV DATE TIME	BTEX Chlorides TPH MR	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #: _____ All Results are emailed. Please provide Email address: myrderts@ensolum.com hygreen@ensolum.com tomrissy@ensolum.com REMARKS:						
						Relinquished By: <i>Hadlie Green</i> Date: 6-6-23 Time: 1230 Received By: <i>Meredith Roberts</i> Date: _____ Time: _____	Observed Temp. °C: 5.4 Corrected Temp. °C: 4.8 Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only) Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Rush <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Turaround Time: _____ Thermometer ID #113 Correction Factor -0.5°C Standard <input checked="" type="checkbox"/> Bacteria (only) Sample Condition: Rush <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 24 Hr <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____				
						Delivered By: (Circle One) _____ Sampler - UPS - Bus - Other: _____		CHECKED BY: (Initials) <i>MR</i>		Turaround Time: _____ Thermometer ID #113 Correction Factor -0.5°C Standard <input checked="" type="checkbox"/> Bacteria (only) Sample Condition: Rush <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 24 Hr <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____	

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





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

---

June 08, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: CHISO 14 (STATE 8711 #3H/ #3 & #4)

Enclosed are the results of analyses for samples received by the laboratory on 06/07/23 15:15.

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/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:	06/07/2023	Sampling Date:	06/07/2023
Reported:	06/08/2023	Sampling Type:	Soil
Project Name:	CHISO 14 (STATE 8711 #3H/ #3 & #4)	Sampling Condition:	Cool & Intact
Project Number:	03C2012056/03C2012047	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.38560,-103.43508		

**Sample ID: FS 01 A 1.25' (H232904-01)**

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	06/08/2023	ND	1.94	97.2	2.00	0.736	
Toluene*	<0.050	0.050	06/08/2023	ND	1.93	96.3	2.00	1.94	
Ethylbenzene*	<0.050	0.050	06/08/2023	ND	1.91	95.4	2.00	1.17	
Total Xylenes*	<0.150	0.150	06/08/2023	ND	5.86	97.7	6.00	1.10	
Total BTEX	<0.300	0.300	06/08/2023	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	<16.0	16.0	06/07/2023	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	06/07/2023	ND	201	101	200	4.36	
DRO >C10-C28*	<10.0	10.0	06/07/2023	ND	168	84.2	200	0.635	
EXT DRO >C28-C36	<10.0	10.0	06/07/2023	ND					

Surrogate: 1-Chlorooctane 79.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.5 % 49.1-148

Cardinal Laboratories

\*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

Cardinal Laboratories

\*=Accredited Analyte

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

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: Ensolum, LLC  
 Project Manager: Healie Green  
 Address: 3122 Nat'l Parks Hwy  
 City: Carlsbad State: NM Zip: 88230  
 Phone #: 432-557-0895 Fax #:   
 Project #: 030201056/030201056  
 Project Name: CHISO 14 STATE BATT #38 FLEET RESTRCK  
 CHISO 14 #3.4 TANK BATTERY  
 Project Location: 32-38560, -103.43508  
 Sampler Name: Meredith Roberts  
 P.O. #:   
 Company: BTACSI  
 Attn: Kelton Beard  
 Address: 1045. Peers 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	ANALYSIS REQUEST
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
42338104	FS01A	1.25'	C1	X						X	6/11/23	1405	BTEX Chlorides TPH → MK

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 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 hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *[Signature]*  
 Date: 6-7-23  
 Time: 7:515  
 Received By: *[Signature]*  
 Date:   
 Time:   
 Verbal Result:  Yes  No Add'l Phone #:   
 All Results are emailed. Please provide Email address: *msbent@ensolum.com*  
 REMARKS: *msbent@ensolum.com*  
 Turnaround Time: Standard  Rush  24 hr   
 Thermometer ID #113  
 Correction Factor -0.5°C  
 Bacteria (only)  Sample Condition   
 Cool Intact  Observed Temp. °C   
 Yes  No  Corrected Temp. °C   
 Observed Temp. °C 3.9  
 Corrected Temp. °C 3.3  
 Sample Condition Cool Intact   
 Yes  No   
 CHECKED BY: (Initials) *VB*

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



APPENDIX E  
NMOCD Notifications

---

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

---

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

Hadlie,

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

JH

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



---

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

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

All,

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

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



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

Thank you,



**Hadlie Green**

Project Geologist

432-557-8895

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

**Ensolum, LLC**





APPENDIX F

Final 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	nOY1829542961
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: John Allen	Contact Telephone: 432-701-5808
Contact email: <a href="mailto:jallen@btaoil.com">jallen@btaoil.com</a>	Incident # (assigned by OCD)
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.385621° Longitude: -103.435077°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chiso 14 #3 & 4	Site Type: Production facility
Date Release Discovered: 10/4/18	API# (if applicable)

Unit Letter	Section	Township	Range	County
P	14	22S	34E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: Merchant Livestock, PO Box 1105, Eunice, NM 88231)

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) <5	Volume Recovered (bbls) 0
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The dump valve on a scrubber failed, which allowed oil spray out of the flare and catch fire. The spray went off site to the north and burned about 1,000 ft<sup>2</sup> of brush.

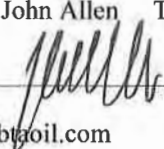
State of New Mexico  
Oil Conservation Division

Incident ID	nOY1829542961
District RP	
Facility ID	
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 oil caught fire when it went through the flare.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, by John Allen by phone to the district office and by email to the bureau chief.	

### 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: John Allen Title: Environmental Manager  Signature:  Date: 10/19/18 email: jallen@btaoil.com Telephone: 432-701-5808
<b><u>OCD Only</u></b>  Received by: _____ Date: _____

Incident ID	nOY1829542961
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&lt;50</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input 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 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nOY1829542961
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 Beard Title: Environmental Manager

Signature:  Date: 6/9/2023

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

**OCD Only**

Received by: Jocelyn Harimon Date: 06/09/2023



Form C-141

State of New Mexico  
Oil Conservation Division

Page 6

Incident ID	nOY1829542961
District RP	
Facility ID	
Application ID	

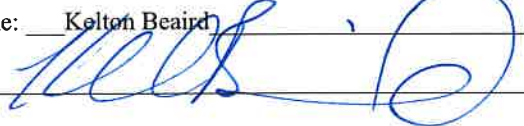
### Closure

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

**OCD Only**

Received by:     Jocelyn Harimon     Date:     06/09/2023    

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

Closure Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

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	NCH1903548008
District RP	1RP-5328
Facility ID	
Application ID	pCH1903548256

## 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 # NCH1903548008 CHISO 14 STATE 8711 #3H FLARE STACK @ 30-025-43614
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

### Location of Release Source

Latitude: 32.38560° Longitude: -103.43508°

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Chiso 14 State 8711 #3H Flare Stack	Site Type: Flare Stack
Date Release Discovered: 1/8/2019	API# (if applicable) Nearest well: Chiso 14 State 8711 #3H API #30-025-43614

Unit Letter	Section	Township	Range	County
P	14	22S	34E	Lea

Surface Owner:  State  Federal  Tribal  Private (Name: Merchant Livestock, PO Box 1105, Eunice, NM 88231)

State Minerals

### Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 2 BBL (based upon volume contained in scrubber and flare line)	Volume Recovered (bbls) -2 BBL (Burned Off)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

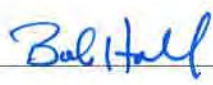
A loss of supply gas that operates the dump valve on the Chiso 14 State 8711 #3H well's 6X15 horizontal gas separator caused crude oil to be dumped into the flare line. Then, a malfunction at the flare gas scrubber allowed the oil to become ignited and burned at the flare line outlet.

Incident ID	nCH1903548008
District RP	
Facility ID	
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?  <b>The fire was the result of an unauthorized release, which the NMOCD Rules define as a major release.</b>
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No, I was notified of this release on the morning of 1/9/2019. I obtained information from the field and filed the present C-141 Report of the release.	

### 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:  <b>Additional Initial Response Details:</b> None of the 2 BBL of crude oil was reclaimed, it was burned off at the flare outlet. Trinity provide a vacuum truck to empty the flare line and the sales gas line. A backhoe was used to clean the charred dirt in the flare stack's containment area.				
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>1/9/2019</b>  email: <b>bhall@btaoil.com</b> Telephone: <b>432-682-3753</b>				
<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;"><b>OCD Only</b></td> <td style="text-align: center;"><b>RECEIVED</b></td> </tr> <tr> <td>Received by: _____</td> <td style="text-align: center;"><b>By CHernandez at 1:32 pm, Feb 04, 2019</b></td> </tr> </table>	<b>OCD Only</b>	<b>RECEIVED</b>	Received by: _____	<b>By CHernandez at 1:32 pm, Feb 04, 2019</b>
<b>OCD Only</b>	<b>RECEIVED</b>			
Received by: _____	<b>By CHernandez at 1:32 pm, Feb 04, 2019</b>			

Incident ID	nCH1903548008
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

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

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

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

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

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

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

Form C-141

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	nCH1903548008
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 Beard Title: Environmental Manager

Signature:  Date: 6/9/2023

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

**OCD Only**

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



Form C-141

State of New Mexico  
Oil Conservation Division

Page 6

Incident ID	nCH1903548008
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: 6/9/2023  
 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: Nelson Velez Date: 09/08/2023  
 Printed Name: Nelson Velez Title: Environmental Specialist – Adv



**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 225735

**CONDITIONS**

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 225735
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	None	9/8/2023