



March 21, 2024

New Mexico Oil Conservation Division

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

**Re: Remediation Work Plan
East Loving SWD #001
Incident Number nAPP2118277509
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared the following *Remediation Work Plan (Work Plan)* to document site assessment and delineation activities completed to date and propose a work plan to address the impacted soil identified at the East Loving SWD #001 (Site). The following Work Plan proposes additional lateral and vertical delineation of the impacted soil and collection of background soil samples to evaluate naturally occurring chloride concentrations at the Site.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 15, Township 23 South, Range 28 East, in Eddy County, New Mexico (32.309559, -104.068115) and is associated with oil and gas exploration and production operations on private land.

On July 1, 2021, a leak in the injection line between the pump and wellhead resulted in the release approximately 30 barrels (bbls) of produced water onto the surface of the well pad. No released fluids were recovered; however, an initial scrape of the saturated soil was completed on July 2, 2021. BTA reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) and submitted a Release Notification Form C-141 (Form C-141) on July 14, 2021. The release was assigned Incident Number nAPP2118277509.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is less than 50 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-00616, located approximately 0.19 miles southeast of the Site. The groundwater well has a reported depth to groundwater of 30 feet bgs. All wells used for

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depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is the Pecos River, located approximately 0.5 miles northeast 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 not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). The Site is less than 1,000 feet to a freshwater well. Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 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

SITE ASSESSMENT ACTIVITIES

Between May 2023 and December 2023, Ensolum personnel were at the Site to evaluate the historical release extent based on information provided on the Form C-141, visual observations, and the documented release extent. Assessment soil samples SS01 through SS11 were collected within and around the release extent from a depth of approximately 0.5 feet bgs to assess the extent of the surface release. 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. The release extent and assessment soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix B.

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 at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Carlsbad, New Mexico, for analysis of the following contaminants of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standard Method SM 4500.

Laboratory analytical results for soil samples SS01 through SS05, collected within the release extent, indicated chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for soil samples SS06 through SS11, collected around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and successfully defined the lateral extent of the surface release. Laboratory analytical results are summarized in Table 1.

Based on visible staining in the release area and laboratory analytical results for assessment soil samples SS01 through SS05, additional delineation activities were warranted.

DELINEATION ACTIVITIES

During September 2023 and December 2023, Ensolum personnel were at the Site to complete Site assessment activities to delineate the lateral and vertical extent of the historical release. Potholes PH01

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through PH06 and boreholes BH01 through BH08 were advanced via trackhoe and/or drilling rig within and around the documented release area to depths ranging from 3 feet to 20 feet bgs. Refusal with the trackhoe was encountered in potholes PH01 through PH06 at depths of 3 feet to 4 feet bgs. During December 2023, a drilling rig was used to deepen potholes PH03 and PH05 and advance boreholes BH02 and BH06 within the release extent, and advance boreholes BH01, BH03 through BH05, and BH07 through BH09 around the release extent. Soil from the potholes and boreholes was field screened for VOCs and chloride. Field screening results and observations for the potholes and boreholes were logged on lithologic soil sampling logs, which are included in Appendix C. Based on field screening results, discrete delineation samples were collected from the potholes and boreholes at depths ranging from 1-foot to 20 feet bgs. The delineation soil samples were collected, handled, and analyzed following the same procedures described above. The delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 3. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix B.

Laboratory analytical results for the delineation soil samples collected from pothole PH06, advanced in the eastern portion of the release extent, and borehole BH07, advanced southwest of the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria at depths ranging from 1-foot to 3 feet bgs in PH06 and from 1-foot to 6 feet bgs in BH07. Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH05 and boreholes BH01 through BH06, BH08, and BH09, advanced within and around the documented release extent, indicated chloride concentrations exceeded the Site Closure Criteria at depths ranging from 1-foot to 20 feet bgs. The samples collected from the terminal depths in pothole PH05 and boreholes BH03, BH04, BH06 through BH09 provided vertical delineation of the chloride impacted soil. In these locations, soil containing chloride less than 600 mg/kg was identified at depths ranging from 6 feet to 14 feet bgs. Chloride concentrations in pothole PH03 and boreholes BH01 and BH05, advanced within and around the release extent, continued to exceed the Site Closure Criteria at depths ranging from 16 feet to 20 feet bgs. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D.

Based on the laboratory analytical results, the lateral and vertical extent of impacted soil was not fully delineated. The deeper impacted soil identified outside of the release extent may be attributed to additional historical releases or naturally occurring chloride. Further Site assessment activities are warranted and are proposed below.

PROPOSED REMEDIATION WORK PLAN

BTA proposes to complete the following investigation activities:

- Vertical delineation of impacted soil to below the Site Closure Criteria will be completed via drilling rig at the location of potholes PH01 through PH04 and BH02, located within the documented release extent and boreholes BH05 and BH01, located to the north and south of the release extent.
- A background soil boring will be advanced at an upgradient location, approximately 50 feet to 100 feet from the Site, to evaluate naturally occurring chloride concentrations. A proposed background soil boring location is shown on Figure 4.
- Lateral delineation of chloride concentrations to below the Site Closure Criteria will be completed via drilling rig to define the lateral extent of impacted soil at the Site. BTA will work with the adjacent landowners for approval to advance delineation soil borings around the perimeter of the well pad. Proposed soil boring locations are shown on Figure 4. The borings advanced off pad in undeveloped areas may be used as additional background data.

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- Soil from all boreholes will be field screened at 1-foot intervals for VOCs and chloride. Field screening results and observations will be logged on lithologic/soil sampling logs. Two delineation samples from each borehole will be submitted for laboratory analysis; the sample with the highest field screening result and the sample from the final borehole depth. The delineation samples will be analyzed for BTEX, TPH, and chloride.
 - Upon completion of delineation activities, the boreholes will be properly abandoned with hydrated bentonite chips.

BTA will complete the delineation activities within 90 days of the date of approval of this *Work Plan* by the NMOCD. Based on the delineation data, a follow-up *Remediation Work Plan* will be submitted to the NMOCD to propose additional remedial activities and, if applicable, propose a naturally occurring chloride concentration to apply at the Site. NMOCD Notifications are included in Appendix E and the 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



Aimee Cole
Senior Managing Scientist

cc: Kelton Beard, BTA
Uffie Land Company

Appendices:

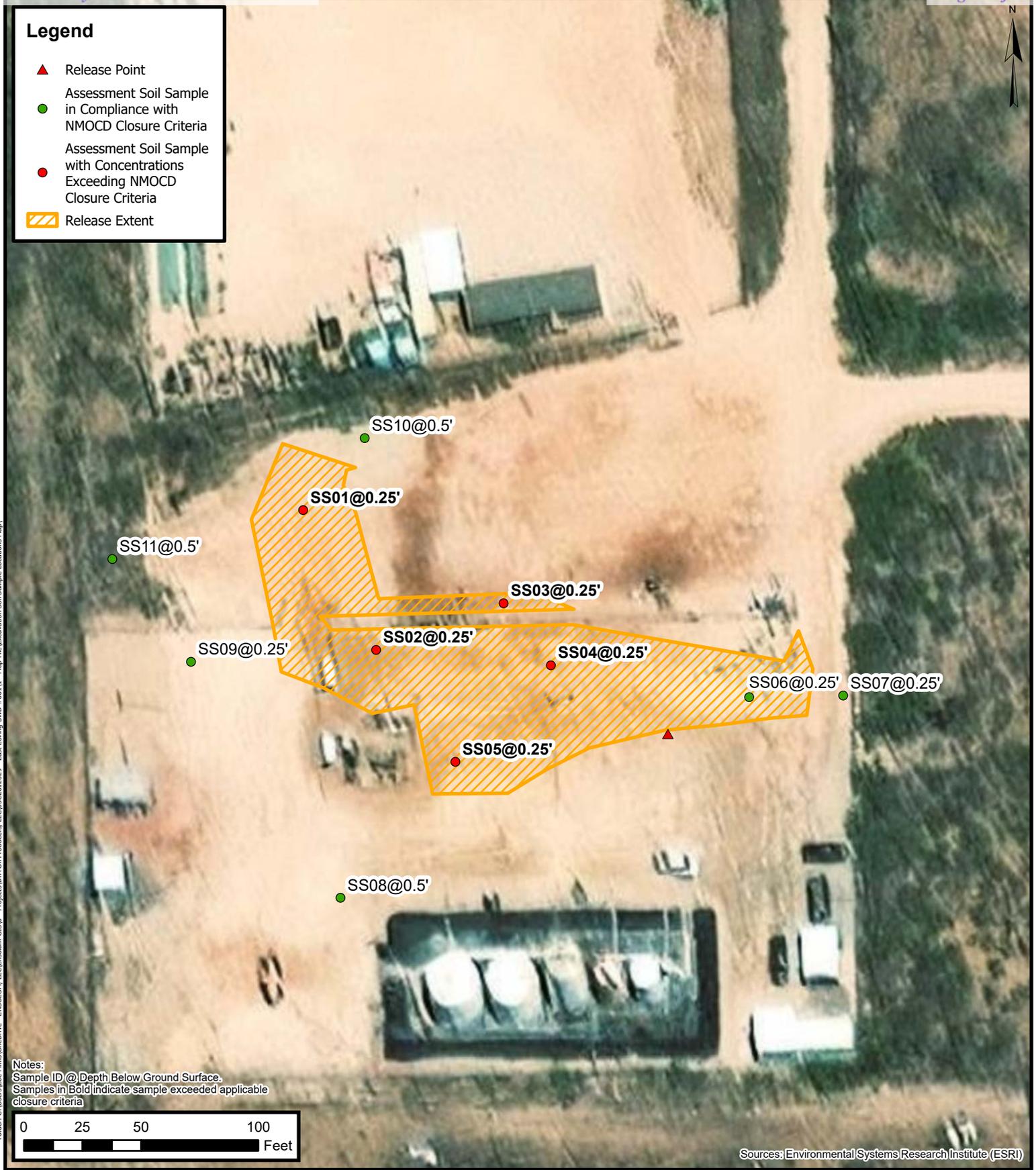
- Figure 1 Site Receptor Map
- Figure 2 Assessment Soil Sample Locations
- Figure 3 Delineation Soil Sample Locations
- Figure 4 Proposed Delineation and Background Soil Boring Locations
- Table 1 Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Lithologic Soil Sampling Logs
- Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation
- Appendix E NMOCD Notifications
- Appendix F Form C-141



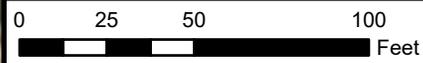
FIGURES

Legend

- ▲ Release Point
- Assessment Soil Sample in Compliance with NMOCD Closure Criteria
- Assessment Soil Sample with Concentrations Exceeding NMOCD Closure Criteria
- Release Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in Bold indicate sample exceeded applicable closure criteria



Sources: Environmental Systems Research Institute (ESRI)

Assessment Soil Sample Locations

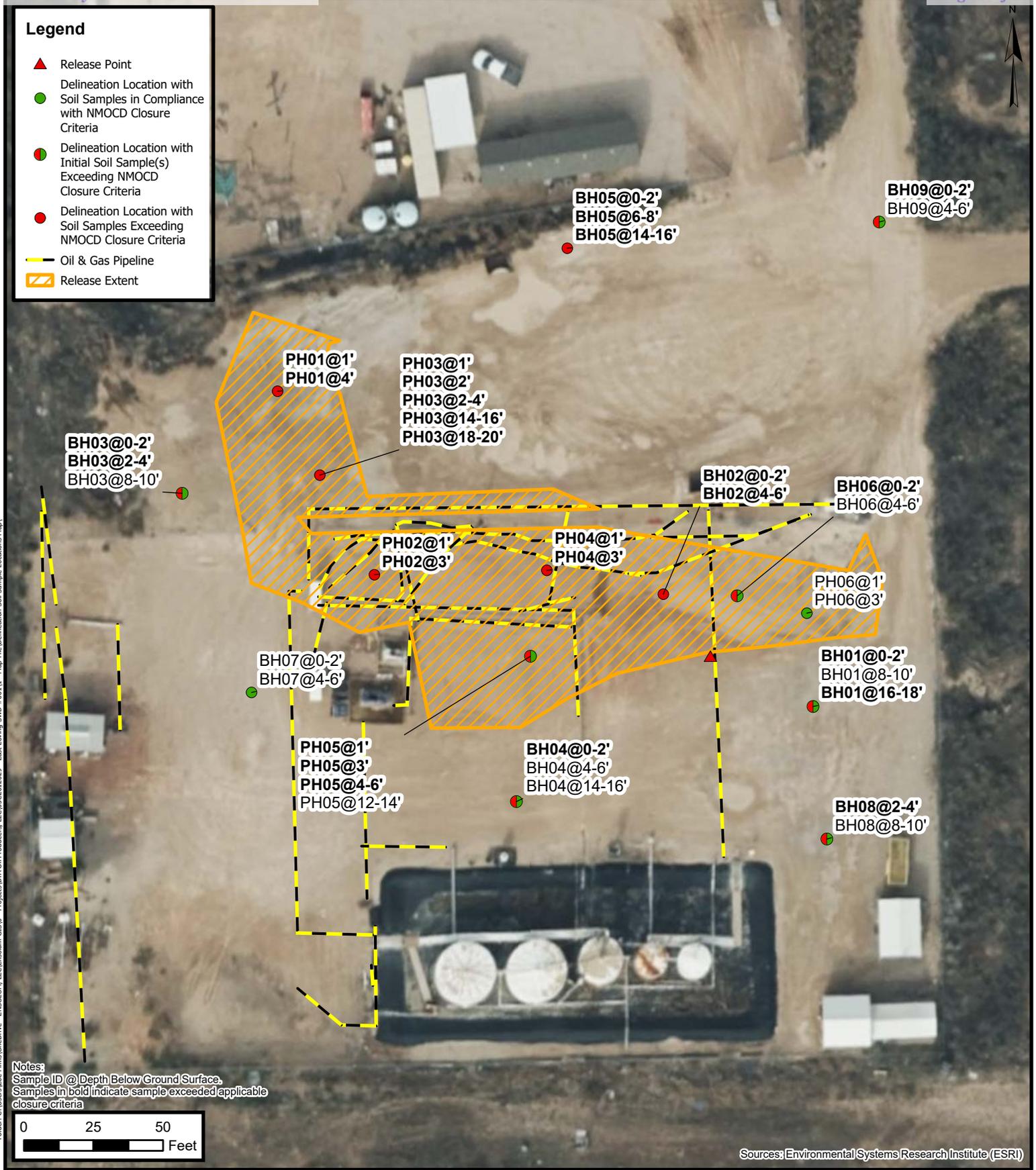
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 Unit A, Sec 15, T23S, R28E
 Eddy County, New Mexico

FIGURE
2



Legend

- ▲ Release Point
- Delineation Location with Soil Samples in Compliance with NMOCD Closure Criteria
- Delineation Location with Initial Soil Sample(s) Exceeding NMOCD Closure Criteria
- Delineation Location with Soil Samples Exceeding NMOCD Closure Criteria
- Oil & Gas Pipeline
- Release Extent



Delineation Soil Sample Locations

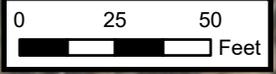
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 Eddy County, New Mexico

FIGURE

3

Legend

- ▲ Release Point
- Proposed Delineation Soil Boring
- Proposed Background Soil Boring
- Release Extent



Sources: Environmental Systems Research Institute (ESRI)



Proposed Delineation and Background Soil Boring Locations

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 Unit A, Sec 15, T23S, R28E
 Eddy County, New Mexico

FIGURE
4



TABLES



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS East Loving SWD #001 BTA Oil Producers, LLC Eddy County, New Mexico										
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
Assessment Soil Samples										
SS01	05/15/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,000
SS02	05/15/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,800
SS03	05/15/2023	0.25	<0.050	<0.300	<10.0	16.5	14.9	16.5	31.4	9,000
SS04	05/15/2023	0.25	<0.050	<0.300	<10.0	19.1	<10.0	19.1	19.1	16,200
SS05	05/15/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	22,000
SS06	05/15/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
SS07	05/15/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
SS08	09/06/2023	0.5	<0.050	<0.300	<10	<10.0	<10.0	<10.0	<10.0	176
SS09	09/06/2023	0.25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SS10	09/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
SS11	12/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Delineation Soil Samples										
PH01	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,320
PH01	09/06/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,520
PH02	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	10,800
PH02	09/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,880
PH03	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,860
PH03	09/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,130
PH03	12/05/2023	2-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
PH03	12/05/2023	14-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,400
PH03	12/05/2023	18-20	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,570
PH04	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,600
PH04	09/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,440
PH05	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,680
PH05	09/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,400
PH05	12/05/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,070
PH05	12/05/2023	12-14	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
PH06	09/06/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
PH06	09/06/2023	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS East Loving SWD #001 BTA Oil Producers, LLC Eddy County, New Mexico										
Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
BH01	12/05/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,520
BH01	12/05/2023	8-10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
BH01	12/05/2023	16-18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,280
BH02	12/05/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,400
BH02	12/05/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	976
BH03	12/05/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,800
BH03	12/05/2023	2-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
BH03	12/05/2023	8-10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
BH04	12/06/2023	0-2	<0.050	<0.300	<10.0	26.9	11.0	26.9	37.9	7,600
BH04	12/06/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480
BH04	12/06/2023	14-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
BH05	12/06/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,560
BH05	12/06/2023	6-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	688
BH05	12/06/2023	14-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	912
BH06	12/06/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,390
BH06	12/06/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
BH07	12/06/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
BH07	12/06/2023	4-6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
BH08	12/06/2023	2-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,920
BH08	12/06/2023	8-10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
BH09	12/06/2023	0-2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,340
BH09	12/06/2023	6-8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon



APPENDIX A

Referenced Well Records



New Mexico Office of the State Engineer

Water Right Summary



WR File Number: C 01352 **Subbasin:** C **Cross Reference:** -
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 3 **Cause/Case:** -
Owner: D H MAGBY

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/	Acres	Diversion	Consumptive
			1	2		To			
get images	463099	72121	1966-12-08	PMT	APR	C 01352	T		3

Current Points of Diversion

POD Number	Well Tag	Source	Q				(NAD83 UTM in meters)		Other Location Desc		
			64	Q16	Q4	Sec	Tws	Rng		X	Y
C 00269		Shallow	4	4	2	15	23S	28E	587778	3574773*	
C 01352			4	4	2	15	23S	28E	587778	3574773*	

An () after northing value indicates UTM location was derived from PLSS - see Help

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

12/19/23 9:18 AM

WATER RIGHT SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)		
Well Tag	POD Number	(quarters are smallest to largest)	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
C	00269		4 4 2	15	23S	28E	587778	3574773*

Driller License: 212	Driller Company: FREEK, R.H.	
Driller Name: FREEK, R.H.		
Drill Start Date: 03/01/1958	Drill Finish Date: 03/30/1958	Plug Date:
Log File Date: 04/08/1958	PCW Rev Date: 04/14/1959	Source: Shallow
Pump Type: TURBIN	Pipe Discharge Size:	Estimated Yield:
Casing Size: 6.00	Depth Well: 240 feet	Depth Water: 35 feet

Water Bearing Stratifications:	Top	Bottom	Description
	20	65	Shale/Mudstone/Siltstone
	200	205	Shale/Mudstone/Siltstone

Casing Perforations:	Top	Bottom
	48	54

*UTM location was derived from PLSS - see Help

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12/19/23 9:18 AM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)					(NAD83 UTM in meters)		
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
C	00616	1	3	1	14	23S	28E	587982	3574978*

Driller License: 842	Driller Company: BRININSTOOL, M.D.	
Driller Name: BRININSTOOL, M.D.		
Drill Start Date: 10/22/1980	Drill Finish Date: 12/05/1980	Plug Date:
Log File Date: 12/09/1980	PCW Rev Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 400 GPM
Casing Size: 9.63	Depth Well: 120 feet	Depth Water: 30 feet

Water Bearing Stratifications:	Top	Bottom	Description
	60	85	Shallow Alluvium/Basin Fill
	92	96	Shallow Alluvium/Basin Fill

Casing Perforations:	Top	Bottom
	60	120

*UTM location was derived from PLSS - see Help

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

12/19/23 9:08 AM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Water Right Summary



WR File Number: C 00235 **Subbasin:** C **Cross Reference:** -
Primary Purpose: STK 72-12-1 LIVESTOCK WATERING
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 3 **Cause/Case:** -
Owner: LEE S. WILLIAMS

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/	Acres	Diversion	Consumptive
			1	2		To			
get images	199312	72121	1950-07-17	PMT	LOG	C 00235	T		3

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q	64Q16Q4Sec	Tws	Rng	X	Y	Other Location Desc
C 00235		Shallow		2	2	15 23S 28E	587676	3575280*	W 1/2

An () after northing value indicates UTM location was derived from PLSS - see Help

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

12/19/23 9:23 AM

WATER RIGHT SUMMARY



APPENDIX B

Photographic Log

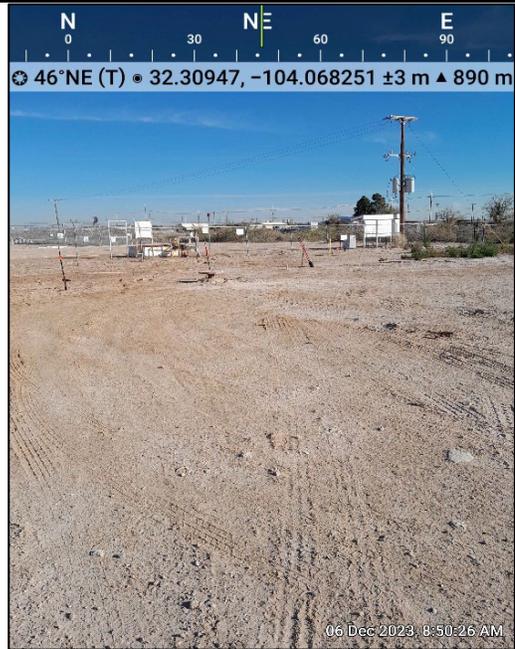


Photographic Log
BTA Oil Producers, LLC
East Loving SWD #001
Incident ID: nAPP2118277509



Photograph: 1 Date: 7/7/2021
Description: Aerial view of release
View: Aerial

Photograph: 2 Date: 5/5/2023
Description: Soil staining during initial assessment
View: West



Photograph: 3 Date: 12/5/2023
Description: Delineation activities
View: Northeast

Photograph: 4 Date: 12/6/2023
Description: View of well pad during delineation
View: Northeast



APPENDIX C

Lithologic Soil Sampling Logs

								Sample Name: PH01		Date: 9/6/23	
								Site Name: East Loving SWD #001			
								Incident Number: nAPP2118277509			
								Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Backhoe	
Coordinates: 32.309828, -104.068628						Hole Diameter: 3'		Total Depth: 4 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	3,735	0.6	N	PH01	1	1	SP	SAND, poorly sorted, tan, noncohesive, fine to coarse, no odor, no staining.			
Dry	3,735	0.2	N	PH01	2	2	SP	SAA			
Dry	3,556	0.4	N	PH01	3	3	SP-GP	SAA, some limestone gravel, coarse			
Dry	3,292	0.3	N	PH01	4	4	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, pale brown, no odor, no staining Refusal at 4 ft bgs TD at 4 ft bgs			

								Sample Name: PH02	Date: 9/7/23
								Site Name: East Loving SWD #001	
								Incident Number: nAPP2118277509	
								Job Number: 03C2012029	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 32.309648, -104.068516								Hole Diameter: 3'	Total Depth: 3 ft bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
						0			
Dry	14,476	0.7	N	PH02	1	1	SP	SAND, poorly sorted, tan, noncohesive, fine to coarse, no odor, no staining.	
Dry	3,231	0.6	N	PH02	2	2	SP	SAA, some limestone gravel, coarse	
Dry	8,686	0.9	N	PH02	3	3	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, pale brown, no odor, no staining	
Refusal at 3 ft bgs TD at 3 ft bgs									

								Sample Name: PH03	Date: 12-5-23
								Site Name: East Loving SWD #001	
								Incident Number: nAPP2118277509	
								Job Number: 03C2012029	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes	Method: Air Rotary
Coordinates: 32.309748, -104.068583						Hole Diameter: 6'		Total Depth: 20 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
						0			
Dry	10,237	0.4	N	PH03	1	1	SP-GP	SAND, poorly sorted, tan, noncohesive, fine to coarse, no odor, no staining.	
Dry	11,133	0.5	N	PH03	2	2	CCHE	CALICHE, abundant limestone, pale tan, poorly sorted, no odor, no staining	
Dry	2,464	-	N	PH03	2-4	2-4	SAA	SAA, medium brown	
Dry	862.4	-	N			4-6	SP-GP	SAND, sand with some gravel, no odor, no staining, light brown, fine to very fine	
Dry	1,108.8	-	N			6-8	SAA	SAA, light tan, fine to coarse grained	
Dry	2,144.8	-	N			8-10	SAA	SAA, medium tan	
Dry	-	-	N			10-12	GP	GRAVEL, sandy gravel mix, no odor, no staining, light brown, coarse grained,	
Dry	1,299.2	-	N			12-14	SAA	SAA	
Dry	2,144.8	-	N	PH03	14-16	14-16	SP-GP	SAND, sand with gravel, medium brown, fine to coarse grained, no odor, no staining	
Dry	1,400	-	N			16-18	SAA	SAA	
Dry	526	-	N	PH03	18-20	18-20	SP-GP	SAND, sand with gravel, poorly sorted, light brown, fine to coarse grained, no odor, no staining TD at 20 ft bgs	

								Sample Name: PH04		Date: 9/6/23	
								Site Name: East Loving SWD #001			
								Incident Number: nAPP2118277509			
								Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Backhoe	
Coordinates: 32.3096497, -104.0683143						Hole Diameter: 3'		Total Depth: 3 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	6,300	0.6	N	PH04	1	1	SP	SAND, poorly sorted, tan, noncohesive, fine to coarse, no odor, no staining.			
Dry	5,365	0.8	N	PH04	2	2	SP	SAA, some limestone gravel, coarse			
Dry	4,189	1.6	N	PH04	3	3	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, pale brown, no odor, no staining			
Refusal at 3 ft bgs TD at 3 ft bgs											

								Sample Name: PH05		Date: 9/7/23					
								Site Name: East Loving SWD #001				Incident Number: nAPP2118277509			
								Job Number: 03C2012029				Logged By: Ronni Hayes		Method: Backhoe	
								Coordinates: 32.309565, -104.068335				Hole Diameter: 3'		Total Depth: 14 ft bgs	
LITHOLOGIC / SOIL SAMPLING LOG								Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.							
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions							
						0									
Dry	4,054.4	-	N		0-2	0-2	SP-GP	SAND, sandy gravel, poorly sorted, tan, fine to coarse, no odor, no staining							
Dry	1,775.2	-	N		2-4	2-4	SAA	SAA							
Dry	716.8	-	N	PH05	4-6	4-6	SP	SAND, gravelly sand, light tan, very fine to fine, no odor, no staining, poorly sorted							
Dry	716.8	-	N		6-10	6-10	SAA	SAA							
Dry	649.6	-	N		10-12	10-12	SP-GP	SAND, sandy gravel, medium brown, fine to coarse grained, no odor, no staining, poorly sorted							
Dry	414.4	-	N	PH05	12-14	12-14	SAA	SAA							
								TD at 14 ft bgs							

								Sample Name: PH06		Date: 9/7/23	
								Site Name: East Loving SWD #001			
								Incident Number: nAPP2118277509			
								Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Backhoe	
Coordinates: 32.309605, -104.068012						Hole Diameter: 3'		Total Depth: 3 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	3,853	0.2	N	PH06	1	1	SP	SAND, poorly sorted, tan, noncohesive, fine to coarse, no odor, no staining.			
Dry	2,201	0.9	N	PH06	2	2	SP	SAA, some limestone gravel, coarse			
Dry	1,574	1.1	N	PH06	3	3	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, pale brown, no odor, no staining			
Refusal at 3 ft bgs TD at 3 ft bgs											

					Sample Name: BH01		Date: 12-5-23	
					Site Name: East Loving SWD #001			
					Incident Number: nAPP2118277509			
					Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Ronni Hayes		Method: Air Rotary	
Coordinates: 32.309514, -104.068002					Hole Diameter: 6"		Total Depth: 18 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	2,643.2	-	N	BH01	0-2	0-2	SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.
Dry	862.4	-	N			2-4	CCHE	CALICHE, sandy limestone gravel, poorly graded, light brown, no odor, no staining
Dry	789.6	-	N			4-6	SP-GP	SAA, some limestone gravel, coarse
Dry	789.6	-	N			6-8	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, medium brown, no odor, no staining
Dry	498.4	-	N	BH01	8-10	8-10	SAA	SAA
Dry	403.2	-	N			10-12	SAA	SAA
Dry	280	-	N			12-14	GP	GRAVEL, sandy limestone gravel, poorly sorted, light brown, no odor, no staining
Dry	403.2	-	N			14-16	SAA	SAA
Dry	212.8	-	N	BH01	16-18	16-18	GP-GM	GRAVEL, sandy semi round gravel, no odor, no staining, poorly sorted, light brown to med brown
TD at 18 ft bgs								

					Sample Name: BH02		Date: 12-5-23	
					Site Name: East Loving SWD #001			
					Incident Number: nAPP2118277509			
					Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Ronni Hayes		Method: Air Rotary	
Coordinates: 32.3096252, -104.0681792					Hole Diameter: 6"		Total Depth: 22 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	2,464	-	N	BH02	0-2	0-2	SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.
Dry	1,204	-	N			2-4	CCHE	CALICHE, limestone gravel, no odor, no staining, medium brown, poorly sorted
Dry	588	-	N	BH02	4-6	4-6	SP-GP	TD at 6 ft bgs

					Sample Name: BH03		Date: 12-5-23	
					Site Name: East Loving SWD #001			
					Incident Number: nAPP2118277509			
					Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Ronni Hayes		Method: Air Rotary	
Coordinates: 32.3097293, -104.0687366					Hole Diameter: 6"		Total Depth: 20 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	2,828	-	N	BH03	0-2	0-2	SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.
Dry	588	-	N	BH03	2-4	2-4	CCHE	CALICHE, sandy limestone gravel, poorly sorted, medium brown, no odor, no staining
Drv	526.4	-	N			4-6	SAA	SAA
Dry	274.4	-	N			6-8	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, medium brown, no odor, no staining
Drv	364	-	N	BH03	8-10	8-10	SAA	TD at 10 ft bgs

								Sample Name: BH04	Date: 12-6-23
								Site Name: East Loving SWD #001	
								Incident Number: nAPP2118277509	
								Job Number: 03C2012029	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes	Method: Air Rotary
Coordinates: 32.3094220, -104.0683518								Hole Diameter: 6"	Total Depth: 16 ft bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
Dry	7,924	-	N	BH04	0-2	0-2	SM-SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.	
Dry	789.6	-	N			2-4	CCHE	CALICHE, limestone gravel, no odor, no staining, medium brown, poorly sorted	
Dry	526.4	-	N	BH04	4-6	4-6	SP-GP	SAND, gravelly sand, no odor, no staining, light brown, poorly sorted	
Dry	235.2	-	N			6-8	SAA	SAA	
Dry	<196	-	N			8-10	SP-GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, medium brown, no odor, no staining	
Dry	<196	-	N			10-12	SAA	SAA	
Dry	364	-	N			12-14	GP	GRAVEL, sandy limestone gravel, poorly sorted, light brown, no odor, no staining	
Dry	235.2	-	N	BH04	14-16	14-16	SAA	SAA	
								TD at 16 ft bgs	

					Sample Name: BH05		Date: 12-5-23	
					Site Name: East Loving SWD #001			
					Incident Number: nAPP2118277509			
					Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Ronni Hayes		Method: Air Rotary	
Coordinates: 32.3099695, -104.0682862					Hole Diameter: 6"		Total Depth: 16 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	2,828	-	N	BH05	0-2	0-2	SM-SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.
Dry	2,296	2.6	N			2-4	CCHE	CALICHE, limestone gravel, no odor, no staining, medium brown, poorly sorted
Dry	1,742.6	-	N			4-6	SP-GP	SAA, some limestone gravel, coarse grained
Dry	526.4	-	N	BH05	6-8	6-8	SAA	SAA
Dry	470.4	-	N			8-10	SP-GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, medium brown, no odor, no staining
Dry	862.4	-	N			10-12	SAA	SAA
Dry	649.6	-	N			12-14	GP	GRAVEL, sandy limestone gravel, poorly sorted, reddish brown, no odor, no staining
Dry	562.4	-	N	BH05	14-16	14-16	SAA	SAA
TD at 16 ft bgs								

				Sample Name: BH06		Date: 12-6-23		
				Site Name: East Loving SWD #001				
				Incident Number: nAPP2118277509				
				Job Number: 03C2012029				
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: Ronni Hayes		Method: Air rotary		
Coordinates: 32.3096241, -104.0680930				Hole Diameter: 6"		Total Depth: 6' bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	2,296	-	Y	BH06	0-2	0-2	SP-GP	SAND, gravelly sand, poorly sorted, medium brown, no odor, noncohesive
Dry	364	-	N			2-4	CCHE	CALICHE, sandy gravel, poorly sorted, medium to light brown color, no odor, noncohesive
Dry	369.6	-	N	BH06	4-6	4-6	GP	GRAVEL, sandy gravel, poorly sorted, light brown color, no odor, noncohesive
								TD at 6' bgs

						Sample Name: BH07		Date: 12-6-23	
						Site Name: East Loving SWD #001			
						Incident Number: nAPP2118277509			
						Job Number: 03C2012029			
LITHOLOGIC / SOIL SAMPLING LOG						Logged By: Ronni Hayes		Method: Air rotary	
Coordinates: 32.3095328, -104.0686595						Hole Diameter: 6"		Total Depth: 6 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
Dry	526.3	-	N	BH07	0-2	0-2	CCHE	CALICHE, sandy gravel, medium brown, no odor, fine to coarse grained, poorly graded	
Dry	235.2	-	N			2-4	SP-SM	SAND, gravelly sand, reddish brown, no odor, no staining, poorly graded	
Dry	470.4	-	N	BH07	4-6	4-6	SAA	SAA TD at 6 ft bgs	

						Sample Name: BH08		Date: 12-6-23	
						Site Name: East Loving SWD #001			
LITHOLOGIC / SOIL SAMPLING LOG						Incident Number: nAPP2118277509			
						Job Number: 03C2012029			
Coordinates:						Logged By: Ronni Hayes		Method: Air Rotary	
						Hole Diameter: 6"		Total Depth: 10 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
Dry	1,624	-	N			0-2	SP	SAND, poorly sorted, medium brown, noncohesive, fine to coarse, no odor, no staining.	
Dry	2,637.6	-	N	BH08	2-4	2-4	CCHE	CALICHE, sandy limestone gravel, poorly graded, medium brown, no odor, no staining	
Dry	1,204	-	N			4-6	SAA	SAA	
Dry	716.8	-	N			6-8	GP	SAND/GRAVEL MIX, abundant limestone gravel, poorly sorted, medium brown, no odor, no staining	
Dry	470.4	-	N	BH08	8-10	8-10	SAA	SAA, light brown-tan	
TD at 10 ft bgs									

								Sample Name: BH09	Date: 12-6-23
								Site Name: East Loving SWD #001	
								Incident Number: nAPP2118277509	
								Job Number: 03C2012029	
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes	Method: Air rotary
Coordinates: 32.309994, -104.067924								Hole Diameter: 6"	Total Depth: 8' bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions	
Dry	2,296	-	N	PH09	0-2	0-2	SP-GP	SAND, gravelly sand, poorly sorted, medium brown, no odor, noncohesive	
Dry	1,204	-	N			2-4	CCHE	CALICHE, sandy gravel, poorly sorted, light brown color, no odor, noncohesive	
Dry	716.8	-	N			4-6	GP	GRAVEL, sandy gravel, poorly sorted, light brown color, no odor, noncohesive	
Drv	319.4	-	N	PH09	6-8	6-8	SAA	SAA TD at 8' bgs	



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

May 18, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EAST LOVING SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 05/15/23 14:18.

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.

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:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 07 0.25' (H232421-01)

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	05/16/2023	ND	2.38	119	2.00	6.10	
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29	
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91	
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14	
Total BTEX	<0.300	0.300	05/16/2023	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	128	16.0	05/16/2023	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445	
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	193	96.5	200	1.99	
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND					

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 09 0.25' (H232421-02)

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	05/16/2023	ND	2.38	119	2.00	6.10		
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14		
Total BTEX	<0.300	0.300	05/16/2023	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	224	16.0	05/16/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	220	110	200	3.67		
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	217	109	200	3.65		
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND						

Surrogate: 1-Chlorooctane 84.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.9 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: **Ensolium, LLC**

Project Manager: **Heddie Green**

Address: **3122 National Parks Hwy**

City: **Carlsbad** State: **NM** Zip: **88220**

Phone #: **4325578895** Fax #:

Project #: **D3C2012029** Project Owner:

Project Name: **East Horning SWD #001**

Project Location: **37.309559, -104.068115**

Company: **BTA**

Attn: **Kevin Jones**

Address: **104 S. Peoria St**

City: **Midland**

State: **TX** Zip: **79709**

Phone #: **432-312-1203**

Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	REMARKS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H233421	SSO7	0.25'		1	X						85	1000	BTEX
	SSO8	0.25'		1	X						575123	1020	TPH
													CHLORIDE

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Relinquished By: **DV**

Received By: **Heddie Green**

Date: **5-15-23**

Time: **1418**

Observed Temp. °C: **51**

Corrected Temp. °C: **41.5**

Sample Condition: Intact Yes No

Checked By: **atg**

Turnaround Time: Standard Rush

Bacteria (only): Cool Intact Yes No

Sample Condition: Observed Temp. °C Corrected Temp. °C

Thermometer ID #113

Corrosion Factor: 0.5°C

Remarks: **All Results are emailed. Please provide Email address: hgreen@ensolium.com**



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

May 18, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EAST LOVING SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 05/15/23 14:18.

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.

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:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 01 0.25' (H232420-01)

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	05/16/2023	ND	2.38	119	2.00	6.10	
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29	
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91	
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14	
Total BTEX	<0.300	0.300	05/16/2023	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	7000	16.0	05/16/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445	
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	193	96.5	200	1.99	
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 143 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 02 0.25' (H232420-02)

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	05/16/2023	ND	2.38	119	2.00	6.10		
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12800	16.0	05/16/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445		
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	193	96.5	200	1.99		
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND						

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 03 0.25' (H232420-03)

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	05/16/2023	ND	2.38	119	2.00	6.10	
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29	
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91	
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14	
Total BTEX	<0.300	0.300	05/16/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9000	16.0	05/16/2023	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445	
DRO >C10-C28*	16.5	10.0	05/16/2023	ND	193	96.5	200	1.99	
EXT DRO >C28-C36	14.9	10.0	05/16/2023	ND					

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 139 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 04 0.25' (H232420-04)

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	05/16/2023	ND	2.38	119	2.00	6.10		
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16200	16.0	05/16/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445		
DRO >C10-C28*	19.1	10.0	05/16/2023	ND	193	96.5	200	1.99		
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND						

Surrogate: 1-Chlorooctane 128 % 48.2-134

Surrogate: 1-Chlorooctadecane 145 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 05 0.25' (H232420-05)

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	05/16/2023	ND	2.38	119	2.00	6.10		
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	22000	16.0	05/16/2023	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445		
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	193	96.5	200	1.99		
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND						

Surrogate: 1-Chlorooctane 123 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/15/2023	Sampling Date:	05/15/2023
Reported:	05/18/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 06 0.25' (H232420-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/16/2023	ND	2.38	119	2.00	6.10		
Toluene*	<0.050	0.050	05/16/2023	ND	2.37	119	2.00	6.29		
Ethylbenzene*	<0.050	0.050	05/16/2023	ND	2.31	115	2.00	5.91		
Total Xylenes*	<0.150	0.150	05/16/2023	ND	7.01	117	6.00	5.14		
Total BTEX	<0.300	0.300	05/16/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	05/16/2023	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	05/16/2023	ND	215	108	200	0.445		
DRO >C10-C28*	<10.0	10.0	05/16/2023	ND	193	96.5	200	1.99		
EXT DRO >C28-C36	<10.0	10.0	05/16/2023	ND						

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 123 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: **Ensolium, LLC**
 Project Manager: **Harlie Green**
 Address: **3122 National Parks Hwy**
 City: **CRISP** State: **NM** Zip: **88220**
 Phone #: **432 557 8895** Fax #:
 Project #: **03C20120 29** Project Owner:
 Project Name: **East Lovin SWD #001**
 Project Location: **32308559-104.068115**
 Sampler Name: **Dmitry N. Nichonov**
 P.O. #:
 Company: **BTAQI**
 Attn: **Kevin Jones**
 Address: **1045 Pecos St**
 City: **Midland**
 State: **TX** Zip: **79701**
 Phone #: **432-54-1103**
 Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
H232420	SS01	0.25'	G	1		X					5/15/23	0900	PH
	SS02		G	1		X					0910	0910	BIEX
	SS03		G	1		X					0920	0930	CHLORIDES
	SS04		G	1		X					0940	0950	
	SS05		G	1		X							
	SS06		G	1		X							

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Relinquished By: **DN** Date: **5-15-23** Received By: **Kevin Jones**
 Relinquished By: **DN** Date: **1418** Received By: **Kevin Jones**

Delivered By: (Circle One) UPS Bus Other: **51**
 Corrected Temp. °C: **4.5**
 Sample Condition: Intact Cool Yes No Yes No
 CHECKED BY: **AK**
 Turnaround Time: **Standard** Rush
 Thermometer ID #113 Correction Factor: -0.5°C
 Bacteria (only) Cool Intact Yes No Yes No
 Sample Condition: Observed Temp. °C 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

September 11, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EAST LOVING SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 09/07/23 11:35.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 08 0.5' (H234853-01)

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	09/08/2023	ND	1.94	97.1	2.00	0.825	
Toluene*	<0.050	0.050	09/08/2023	ND	1.93	96.6	2.00	0.0764	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.06	103	2.00	0.345	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.16	103	6.00	1.17	
Total BTEX	<0.300	0.300	09/08/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/07/2023	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	09/07/2023	ND	176	88.1	200	0.226	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	193	96.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 10 0.5' (H234853-02)

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	09/08/2023	ND	1.94	97.1	2.00	0.825	
Toluene*	<0.050	0.050	09/08/2023	ND	1.93	96.6	2.00	0.0764	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.06	103	2.00	0.345	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.16	103	6.00	1.17	
Total BTEX	<0.300	0.300	09/08/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	560	16.0	09/07/2023	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	09/07/2023	ND	176	88.1	200	0.226	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	193	96.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 01 1' (H234853-03)

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	09/08/2023	ND	1.94	97.1	2.00	0.825	
Toluene*	<0.050	0.050	09/08/2023	ND	1.93	96.6	2.00	0.0764	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.06	103	2.00	0.345	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.16	103	6.00	1.17	
Total BTEX	<0.300	0.300	09/08/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	4320	16.0	09/07/2023	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	09/07/2023	ND	176	88.1	200	0.226	
DRO >C10-C28*	<10.0	10.0	09/07/2023	ND	193	96.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	09/07/2023	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 01 C 4' (H234853-04)

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	09/08/2023	ND	1.94	97.1	2.00	0.825	
Toluene*	<0.050	0.050	09/08/2023	ND	1.93	96.6	2.00	0.0764	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.06	103	2.00	0.345	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.16	103	6.00	1.17	
Total BTEX	<0.300	0.300	09/08/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 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	3520	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 05 1' (H234853-05)

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	09/08/2023	ND	2.04	102	2.00	1.01		
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84		
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19		
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57		
Total BTEX	<0.300	0.300	09/08/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 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	2680	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57		
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339		
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND						

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 05 B 3' (H234853-06)

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	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 03 1' (H234853-07)

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	09/08/2023	ND	2.04	102	2.00	1.01		
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84		
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19		
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57		
Total BTEX	<0.300	0.300	09/08/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7860	16.0	09/07/2023	ND	432	108	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/08/2023	ND	207	104	200	3.57		
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339		
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND						

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 03 A 2' (H234853-08)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8130	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 98.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 02 1' (H234853-09)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10800	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 02 B 3' (H234853-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 06 1' (H234853-11)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 06 B 3' (H234853-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 88.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.6 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 04 1' (H234853-13)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 96.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/07/2023	Sampling Date:	09/06/2023
Reported:	09/11/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Tamara Oldaker
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 04 B 3' (H234853-14)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/08/2023	ND	2.04	102	2.00	1.01	
Toluene*	<0.050	0.050	09/08/2023	ND	2.07	104	2.00	1.84	
Ethylbenzene*	<0.050	0.050	09/08/2023	ND	2.00	100	2.00	1.19	
Total Xylenes*	<0.150	0.150	09/08/2023	ND	6.03	100	6.00	1.57	
Total BTEX	<0.300	0.300	09/08/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	09/07/2023	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	09/08/2023	ND	207	104	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/08/2023	ND	206	103	200	0.00339	
EXT DRO >C28-C36	<10.0	10.0	09/08/2023	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Ensolum, LLC

Project Manager: Aimee Cole

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 720-384-7365

Project #: 03C2012029

Project Name: East Loving SWD #001

Project Location: 32.309559, -104.068115

Sampler Name: Ronni Hayes

FOR LAB USE ONLY

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: BTA Oil

Attn: Kelton Baird

Address: 104 S Pecos St

City: Midland

State: Texas Zip: 79701

Phone #:

Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	BTEX	TPH	CI-
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
H234853	S508	0.5	G	1	X							9/6/23	0945	X	X	X	
	S510	1	G	1	X							1010		X			
	PH01	1	G	1	X							1128		X			
	PH01C	4	G	1	X							1137		X			
	PH05	1	G	1	X							1203		X			
	PH05B	3	G	1	X							1267		X			
	PH03	1	G	1	X							1215		X			
	PH03A	2	G	1	X							1220		X			
	PH02	1	G	1	X							1235		X			
	PH02B	3	G	1	X							1239		X			

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Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

Relinquished By: *JMM*

Date: 4-7-23

Time: 1:35

Received By: *[Signature]*

Verbal Result: Yes No Add'l Phone #:

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

Observed Temp. °C: 31 Corrected Temp. °C: _____

Sample Condition: Cool Intact Yes No Bacteria (only) Sample Condition Observed Temp. °C Corrected Temp. °C

Checked By: (Initials) JS

Turnaround Time: Standard Rush

Thermometer ID: 444 440 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500

REMARKS: OC0100@ensolum.com

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



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Aimee Cole
 Address: 3122 National Parks Hwy
 City: Carlsbad
 State: NM Zip: 88220
 Phone #: 720-384-7365
 Project #: 03C2012029
 Project Name: East Loving SWD #001
 Project Location: 32,309559, -104,068115
 Sampler Name: Ronni Hayes

P.O. #: **BILL TO**
 Company: BTA Oil
 Attn: Kelton Beard
 Address: 104 S Pecos St
 City: Midland
 State: Texas Zip: 79701
 Phone #:
 Fax #:
 ANALYSIS REQUEST

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	TPH	BTEX	CI-
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.					
H234853		11		1			X					9/6/23	1245	X	X	X
	PH04B	12		3			X					1252				
	PH04B	13		1			X					1300				
	PH04B	14		3			X					1304				

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Relinquished By: *[Signature]*
 Date: 7-1-23
 Time: 11:35

Received By: *[Signature]*
 Date:
 Time:
 Verbal Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 REMARKS: *add email ensolum.com*

Delivered By: (Circle One) UPS Bus Other:
 Observed Temp. °C: 31
 Corrected Temp. °C:
 Sample Condition: Intact Cool Yes No Yes No
 CHECKED BY: (Initials) *[Signature]*
 Turnaround Time: Standard Rush
 Thermometer ID: #1140
 Correction Factor: -0.02
 Bacteria (only) Sample Condition: Yes No Yes No
 Corrected Temp. °C:
 Date: 9/1/23

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

December 13, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EAST LOVING SWD #001

Enclosed are the results of analyses for samples received by the laboratory on 12/08/23 16:06.

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.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 05 4-6' (H236593-01)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	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	1070	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 86.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 05 12-14' (H236593-02)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 02 0-2' (H236593-03)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 93.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 02 4-6' (H236593-04)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	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	976	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 87.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 03 2-4' (H236593-05)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 03 14-16' (H236593-06)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	2400	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 92.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 03 18-20' (H236593-07)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 01 0-2' (H236593-08)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	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	2520	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 75.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 01 8-10' (H236593-09)

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	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 80.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.6 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 01 16-18' (H236593-10)

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	12/11/2023	ND	2.19	110	2.00	7.15		
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1		
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3		
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5		
Total BTEX	<0.300	0.300	12/11/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1280	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90		
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11		
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND						

Surrogate: 1-Chlorooctane 85.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 03 0-2' (H236593-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.19	110	2.00	7.15	
Toluene*	<0.050	0.050	12/11/2023	ND	2.09	104	2.00	12.1	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.18	109	2.00	12.3	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	6.46	108	6.00	12.5	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3880	16.0	12/11/2023	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 03 2-4' (H236593-12)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 90.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/05/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 03 8-10' (H236593-13)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 89.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 04 0-2' (H236593-14)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7600	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	26.9	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	11.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 88.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 04 4-6' (H236593-15)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	190	94.9	200	3.90	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	184	92.0	200	4.11	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 04 14-16' (H236593-16)

BTEX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934		
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24		
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92		
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91		
Total BTEX	<0.300	0.300	12/11/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	232	116	200	1.69	QR-03	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	217	109	200	8.76		
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND						

Surrogate: 1-Chlorooctane 79.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 05 0-2' (H236593-17)

BTEX 8021B		mg/kg		Analyzed By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	232	116	200	1.69	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	217	109	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 55.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 55.9 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 05 6-8' (H236593-18)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	12/11/2023	ND	432	108	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	12/12/2023	ND	232	116	200	1.69	
DRO >C10-C28*	<10.0	10.0	12/12/2023	ND	217	109	200	8.76	
EXT DRO >C28-C36	<10.0	10.0	12/12/2023	ND					

Surrogate: 1-Chlorooctane 93.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 05 14-16' (H236593-19)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	912	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 77.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: SS 11 @ 0.5' (H236593-20)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	12/11/2023	ND	432	108	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	12/12/2023	ND	216	108	200	0.312	
DRO >C10-C28*	<10.0	10.0	12/12/2023	ND	187	93.6	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	12/12/2023	ND					

Surrogate: 1-Chlorooctane 81.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 06 0-2' (H236593-21)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 71.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 67.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 06 4-6' (H236593-22)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 07 0-2' (H236593-23)

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	12/11/2023	ND	2.29	115	2.00	0.934		
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24		
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92		
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91		
Total BTEX	<0.300	0.300	12/11/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312		
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76		
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND						

Surrogate: 1-Chlorooctane 73.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 07 4-6' (H236593-24)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 79.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.8 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 08 2-4' (H236593-25)

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	12/11/2023	ND	2.29	115	2.00	0.934		
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24		
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92		
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91		
Total BTEX	<0.300	0.300	12/11/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1920	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	216	108	200	0.312		
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	187	93.6	200	1.76		
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND						

Surrogate: 1-Chlorooctane 66.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 62.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: BH 08 8-10' (H236593-26)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	201	101	200	1.55	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	200	99.9	200	2.62	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 09 0-2' (H236593-27)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1340	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	201	101	200	1.55	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	200	99.9	200	2.62	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 81.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	12/08/2023	Sampling Date:	12/06/2023
Reported:	12/13/2023	Sampling Type:	Soil
Project Name:	EAST LOVING SWD #001	Sampling Condition:	Cool & Intact
Project Number:	03C2012029	Sample Received By:	Dionica Hinojos
Project Location:	BTA 32.309559,-104.068115		

Sample ID: PH 09 6-8' (H236593-28)

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	12/11/2023	ND	2.29	115	2.00	0.934	
Toluene*	<0.050	0.050	12/11/2023	ND	2.27	114	2.00	5.24	
Ethylbenzene*	<0.050	0.050	12/11/2023	ND	2.37	118	2.00	6.92	
Total Xylenes*	<0.150	0.150	12/11/2023	ND	7.03	117	6.00	6.91	
Total BTEX	<0.300	0.300	12/11/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/11/2023	ND	432	108	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	12/11/2023	ND	201	101	200	1.55	
DRO >C10-C28*	<10.0	10.0	12/11/2023	ND	200	99.9	200	2.62	
EXT DRO >C28-C36	<10.0	10.0	12/11/2023	ND					

Surrogate: 1-Chlorooctane 84.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.9 % 49.1-148

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Project # 03C2012029

BILL TO

ANALYSIS REQUEST

Project Manager: Aree Cole
 Address: 3122 Natural Parks Hwy
 City: Carlsbad State: NM Zip: 88520
 Phone #: 720 384 7365 Fax #:
 Project #: 03D-205-7055/RH Project Owner:
 Project Name: East Lehigh SWP #001
 Project Location: 32.309559, -104.068115
 Sampler Name: Rom Higgins
 FOR LAB USE ONLY

P.O. #:
 Company: BTH D-1
 Alt: Kelvin Benard
 Address: 104 S Peass St.
 City: Midland
 State: TX Zip: 79701
 Phone #:
 Fax #:
 PRESERV:
 SAMPLING

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CI-
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
1	PH65	4-6'	G	1								12/5/23	0910	X	X	X
2	PH65	12-14'											0923	X	X	X
3	PH62	0-2'											0945	X	X	X
4	BH62	4-6'											0958	X	X	X
5	PH63	2-4'											1054	X	X	X
7	PH63	14-16'											1115	X	X	X
8	PH63	18-20'											1123	X	X	X
5	BH01	0-2'											1330	X	X	X
5	BH01	8-10'											1338	X	X	X
5	BH01	16-19'											1346	X	X	X

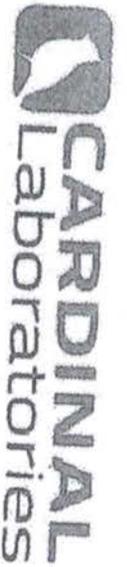
PLATE NOTE: Usability and Design. Containers usability and design should be noted on the amount paid by the client for the analysis. All design holding time for negligence and any other cause whatsoever shall be determined unless noted by Cardinal within 30 days after completion of the applicable analysis. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of data, or loss of profits, incurred by client, its subsidiaries, affiliates or successors which are not related to the performance of services hereunder by Cardinal. Receipts of analysis shall be based upon any of the above stated reasons at discretion.

Relinquished By:
 Date: 12-8-23
 Time: 10:06
 Received By:
 Date:
 Time:

Delivered By: (Circle One)
 UPS - Bus - Other:
 Observed Temp. °C: 5.8
 Corrected Temp. °C: 11.40
 Sample Condition: Cool Intact Yes No
 Checked By: (Initials)
 Turnaround Time:
 Standard Kits:
 Bacteria (only) Sample Condition: Cool Intact Yes No
 Corrected Temp. °C:
 Remarks: a.cole@ensulum.com

Verbal Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 Remarks: a.cole@ensulum.com

1 of 3



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476
Company Name: Ensolum, LLC

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 3

BILL TO

ANALYSIS REQUEST

Project Manager: Aree Cole
 Address: 3122 National Parks Hwy
 City: Carlsbad State: NM Zip: 88320
 Phone #: 720 364 7305 Fax #:
 Project #: 03CZ01Z629 Project Owner: BTA 01
 Project Name: East Loring SWD #001
 Project Location: 32369559, -1014.018115
 Sampler Name: Renn, Hayes
 P.O. #: BTA 01
 Company: BTA 01
 Attn: Kelvin Beard
 Address: 1015 Peas St
 City: M. dland
 State: TX Zip: 79701
 Phone #:
 Fax #:

Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	ANALYSIS
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :			
11	BH03	0-2'	1							12/5/23	1505	BTEX
12	BH03	2-4'	1							1510	1537	TPH
13	BH03	8-10'	1							1510	1537	CI-
14	BH04	0-2'	1							12/6/23	0845	
15	BH04	4-6'	1							0853	0915	
16	BH04	14-16'	1							0942	1002	
17	BH05	0-2'	1							1025	1120	
18	BH05	6-8'	1									
19	BH05	14-16'	1									
20	BH05	0-5'	1									

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Relinquished By: [Signature]
 Date: 12-4-23
 Time: 12:06
 Received By: [Signature]
 Date: 12-4-23
 Time: 12:06

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: Other
 Observed Temp.: 5.5
 Corrected Temp.: 4.140
 Sample Condition: Intact Leaked
 Checked By: [Signature]
 Turnaround Time: 12-2-23
 Standard Add'l Phone #:
 RUSH
 Bacteria (only) Sample Condition: Observed Temp.: 4.37
 Cool Inlet Corrected Temp.: 4.37
 Yes No



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 3

BILL TO

ANALYSIS REQUEST

Project Manager: Aree Cole
 Address: 3122 National Parks Hwy
 City: Calisbad State: NM Zip: 88220
 Phone #: 720 384 7365 Fax #: 720 384 7365
 Project #: 03CZ012024 Project Owner: BTA 611
 Project Name: East Loring SWD #01
 Project Location: 32 309 559 -104.068115
 Sampler Name: Ron Hayes
 FOR LAB USE ONLY

P.O. #: BTA 01
 Company: BTA 01
 Attn: Kelvin Beard
 Address: 104 Speers St
 City: Midland
 State: TX Zip: 79701
 Phone #:
 Fax #:
 Preserv:
 Sampling:
 Matrix:
 Other:
 Date: 12/6/23
 Time: 16:06

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	Cl ⁻
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H030593	BH06	0-2'	C	1											
	BH06	4-6'			X										
	BH07	0-2'													
	BH07	4-6'													
	BH08	2-4'													
	BH08	8-10'													
	PH09	0-2'													
	PH09	6-8'													

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Relinquished By: *[Signature]*
 Date: 12-6-23
 Time: 16:06
 Received By: *[Signature]*
 Date:
 Time:
 Remarks: *acele@ensolum.com*

Delivered By: (Circle One) Observed Temp. °C *7.50c* Corrected Temp. °C *4.140*
 Sampler - UPS - Bus - Other:
 Sample Condition: Cool Inlet Yes No
 Checked By: *[Signature]*
 Turnaround Time:
 Standard Rustn
 Bacteria (only) Sample Condition: Cool Inlet Yes No
 Corrected Temp. °C
 † Cardinal cannot accept verbal changes. Please email changes to cely.lee@cardinallabsnm.com



APPENDIX E
NMOCD Notifications

From: [Wells, Shelly, EMNRD](#)
To: [Hadlie Green](#); [Hamlet, Robert, EMNRD](#); [Bratcher, Michael, EMNRD](#)
Cc: [Kelton Beaird](#); [Aimee Cole](#); [Tacoma Morrissey](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 10/16/2023
Date: Wednesday, October 11, 2023 12:07:44 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Hi Hadlie,

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

Thank you,

Shelly

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

From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, October 11, 2023 11:58 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrn.nm.gov>
Cc: Kelton Beaird <KBeaird@btaoil.com>; Aimee Cole <acole@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 10/16/2023

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 October 16, 2023.

- RGA #1 / nAPP2228347919
 - Sampling Date: 10/17/2023 @ 9:00 AM MST

- Ogden Substation Tank Overflow / nAPP2230983706
 - Sampling Date: 10/17-20/2023 @ 9:00 AM MST

- East Loving SWD #001 / nAPP2118277509
 - Sampling Date: 10/19-20/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC





APPENDIX F

Form C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2118277509
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # (assigned by OCD) nAPP2118277509
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

Location of Release Source

Latitude: **32.309559** Longitude: **-104.068115**

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Loving SWD #001	Site Type: Injection Well Location
Date Release Discovered: 7/1/2021	API# (if applicable) Nearest well: East Loving SWD #001 API #30-015-26764

Unit Letter	Section	Township	Range	County
A	15	23S	28E	Eddy

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 30 BBL	Volume Recovered (bbls) 0 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Equipment Failure – Flowline Leak

Leak in injection line between pump and wellhead. The release was contained on the well pad.

The release ran into a low spot mixing with rainwater that was already standing.

No fluid recovered since the area was soaked from previous rain.

Incident ID	nAPP2118277509
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 spill volume was greater than 25 BBL, which the NMOCD Rules define as a major release.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, Notice of Release was filed online by Bob Hall on 7/1/2021.	

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: Extra Details: On 7/2/2021, the release area was scraped and soil was stockpiled on location. A quick assessment of the scraped area indicates more impacted soil must be removed from the release area (copy attached).
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.
Printed Name: Bob Hall Title: Environmental Manager Signature:  Date: 7/14/2021 email: bhall@btaoil.com Telephone: 432-682-3753
OCD Only Received by: <u>Ramona Marcu</u> Date: <u>7/14/2021</u>

NAPP2118277509

East Loving SWD (McLoving)
July 7, 2021
Loving, NM

Drone Photos:



Results:

SWD 1	316ppm	6in
SWD 2	27,616+ ppm	6in
SWD 3	27,616+ ppm	6in
SWD 4	27,616+ ppm	6in
STOCK PILE	16,796 ppm	composite



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1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 36383

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 36383
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
marcus	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	7/14/2021

Incident ID	nAPP2118277509
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 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.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2118277509
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: 1-18-2024

email: KBeard@btaoil.com

Telephone: 432-682-3753

OCD Only

Received by: _____

Date: _____

Incident ID	nAPP2118277509
District RP	
Facility ID	
Application ID	

Remediation Plan

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

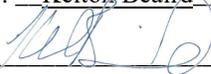
- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation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

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

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

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

Printed Name: Kelton Beaird Title: Environmental Manager

Signature:  Date: 1-18-2024

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

OCD Only

Received by: _____ Date: _____

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature: _____ Date: _____

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Santa Fe, NM 87505

QUESTIONS

Action 325966

QUESTIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2118277509
Incident Name	NAPP2118277509 EAST LOVING SWD #001 @ 30-015-26764
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Well	[30-015-26764] EAST LOVING SWD #001

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	EAST LOVING SWD #001
Date Release Discovered	07/01/2021
Surface Owner	Private

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

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Flow Line - Injection Produced Water Released: 30 BBL Recovered: 0 BBL Lost: 30 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Leak in injection line between pump and wellhead. The release was contained on the well pad. It ran into a low spot mixing with rain water that was already standing.

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QUESTIONS, Page 2

Action 325966

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: BTA ENSOLUM Title: Environmental Manager Email: kbeaird@btaoil.com Date: 03/22/2024
--	--

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QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Site Characterization
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 100 and 200 (ft.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 500 and 1000 (ft.)
Any other fresh water well or spring	Between 500 and 1000 (ft.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

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

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

Chloride (EPA 300.0 or SM4500 Cl B)	22000
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	31.4
GRO+DRO (EPA SW-846 Method 8015M)	19.1
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	06/20/2024
On what date will (or did) the final sampling or liner inspection occur	09/18/2024
On what date will (or was) the remediation complete(d)	09/18/2024
What is the estimated surface area (in square feet) that will be reclaimed	16000
What is the estimated volume (in cubic yards) that will be reclaimed	2500
What is the estimated surface area (in square feet) that will be remediated	16000
What is the estimated volume (in cubic yards) that will be remediated	2500

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

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

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QUESTIONS, Page 4

Action 325966

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)

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

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	LEA LAND LANDFILL [fEEM0112342028]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

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

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

I hereby agree and sign off to the above statement	Name: BTA ENSOLUM Title: Environmental Manager Email: kbeaird@btaoil.com Date: 03/22/2024
--	--

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

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QUESTIONS, Page 5

Action 325966

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

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QUESTIONS, Page 6

Action 325966

QUESTIONS (continued)

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

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

Remediation Closure Request	
<i>Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.</i>	
Requesting a remediation closure approval with this submission	No

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

CONDITIONS

Action 325966

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 325966
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
scwells	Remediation plan is approved with the following conditions. With your initial C-141 submission, you answered "No" to "Is the concentration of chloride in the produced water >10,000 mg/l". Per 19.15.29.11A(5)c(i) NMAC, OCD requests the responsible party obtain a representative sample of the produced water and submit laboratory results with your next report submission which is due to OCD by June 17, 2024.	4/18/2024