



June 12, 2023

New Mexico Oil Conservation Division

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

**Re: Closure Request
Mesa B East NGL Water Transfer Line
Incident Number nAPP2235558643
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of BTA Oil Producers, LLC (BTA), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Mesa B East NGL Water Transfer Line (Site). The purpose of the excavation and soil sampling activities was to address impacts to soil resulting from a produced water release at the Site. Based on excavation activities and laboratory analytical results from the soil sampling events, BTA is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2235558643.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 7, Township 26 South, Range 33 East, in Lea County, New Mexico (32.062595°, -103.614578°) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On December 20, 2022, static electricity from a poly natural gas line caused a small fire that burned a hole in an adjacent poly water transfer line and resulted in the release of approximately 114 barrels (bbls) of produced water onto the well pad. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 55 bbls of produced water were recovered. The saturated soil was scraped up from the release area and stockpiled on-site for disposal. BTA reported the release electronically to the New Mexico Oil Conservation Division (NMOCD) on December 21, 2022, and submitted a *Release Notification Form C-141* (Form C-141) on January 3, 2023. The release was assigned Incident Number nAPP2235558643.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be between 51 feet and 100 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) soil boring C-04547, drilled

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Closure Request
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approximately 0.8 miles southeast of the Site during July 2021. The soil boring has a reported depth to groundwater of 89.5 feet bgs and a total depth of 112 feet bgs. The soil boring was subsequently plugged following approved NMOSE protocols. Three additional NMOSE wells, C-04485-POD 1, C-04549, and C-04537, located within 1-mile to 1.4 miles north and west of the Site all indicated regional depth to groundwater is greater than 51 feet bgs. Multiple data points exist around the Site and there are no surface features indicative of the presence of shallow groundwater. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 385 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On December 21, 2022, Ensolum personnel were at the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Four assessment soil samples (SS01 through SS04) were collected around the release extent from a depth of 0.5 feet bgs to confirm the lateral extent of the release. Three assessment soil samples (SS05 through SS07) were collected within the release extent, to assess for the presence or absence of impacted soil. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit 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 under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method SM4500.

Laboratory analytical results for soil samples SS01 through SS04, collected around the release extent, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for soil samples SS05 through SS07, collected within the release extent, indicated all COC concentrations were compliant with

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the Site Closure Criteria; however, based on visible staining within the release extent, excavation activities appeared to be warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On April 26, 2023, Ensolum personnel were at the Site to oversee excavation activities based on visible staining within the release extent. Excavation activities were performed via back-hoe, hydrovac, and hand shovels. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a depth of 2 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS13 were collected from the floor of the excavation at a depth of 2 feet bgs. Composite soil samples SW01 through SW04 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 2 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

Laboratory analytical results for excavation soil samples FS01 through FS13 and SW01 through SW04 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix C.

The excavation area measured approximately 2,545 square feet. A total of 189 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the Delaware Basin Landfill Facility (DBLF) in Jal, New Mexico.

CLOSURE REQUEST

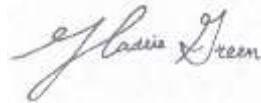
Site assessment and excavation activities were conducted at the Site to address the December 20, 2022, produced water release. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the most stringent Table I Closure Criteria. Based on the laboratory analytical results, no further remediation was required.

Initial response efforts and excavation of impacted soil have mitigated impacts at this Site. BTA believes these remedial actions are protective of human health, the environment, and groundwater. As such, BTA respectfully requests closure for Incident Number nAPP2235558643. Notifications submitted to the NMOCD are included in Appendix D and the final Form C-141 is included in Appendix E.

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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

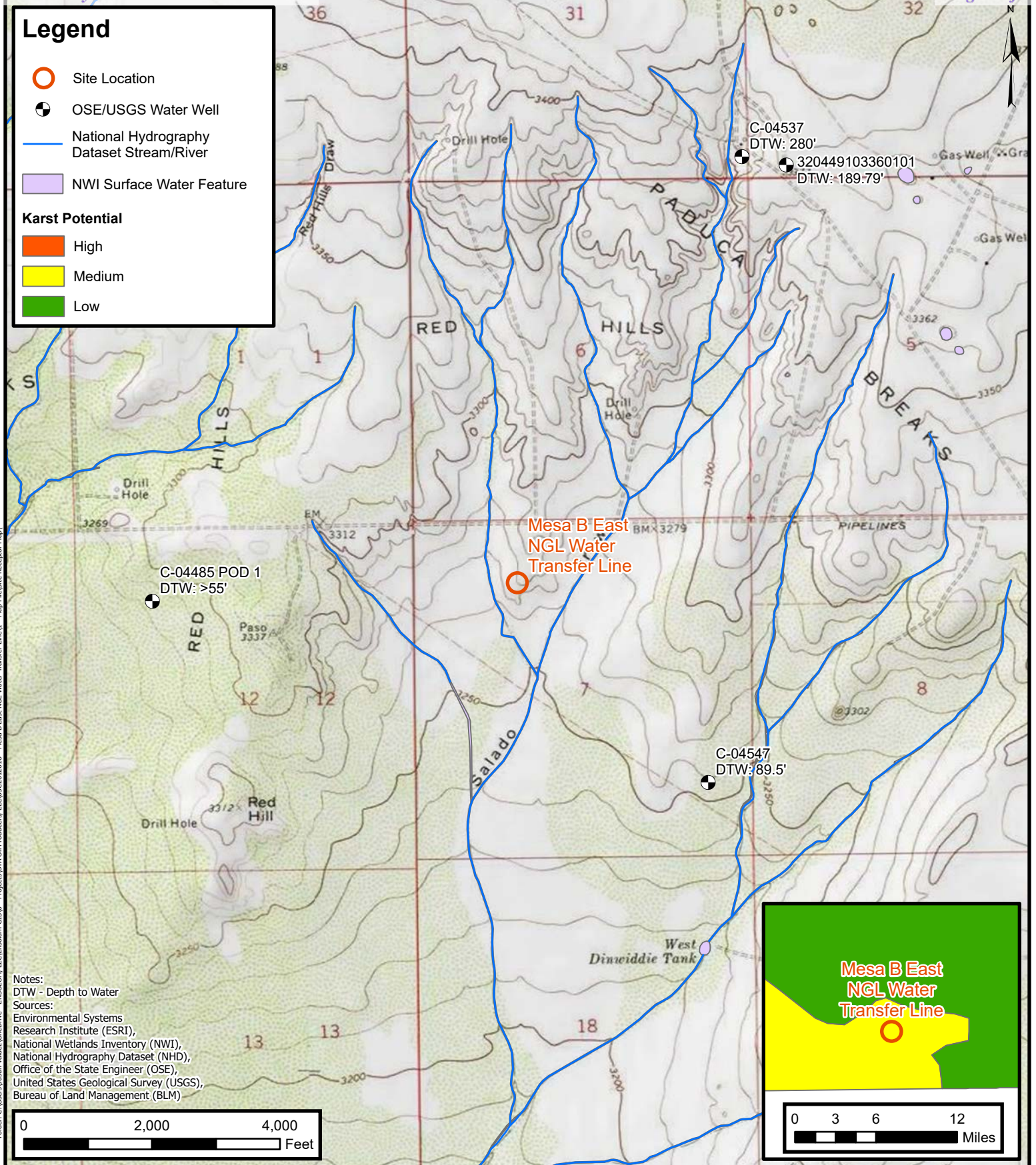
cc: Kelton Beaird, BTA
Nathan Sirgo, BTA
Bureau of Land Management

Appendices:

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



FIGURES



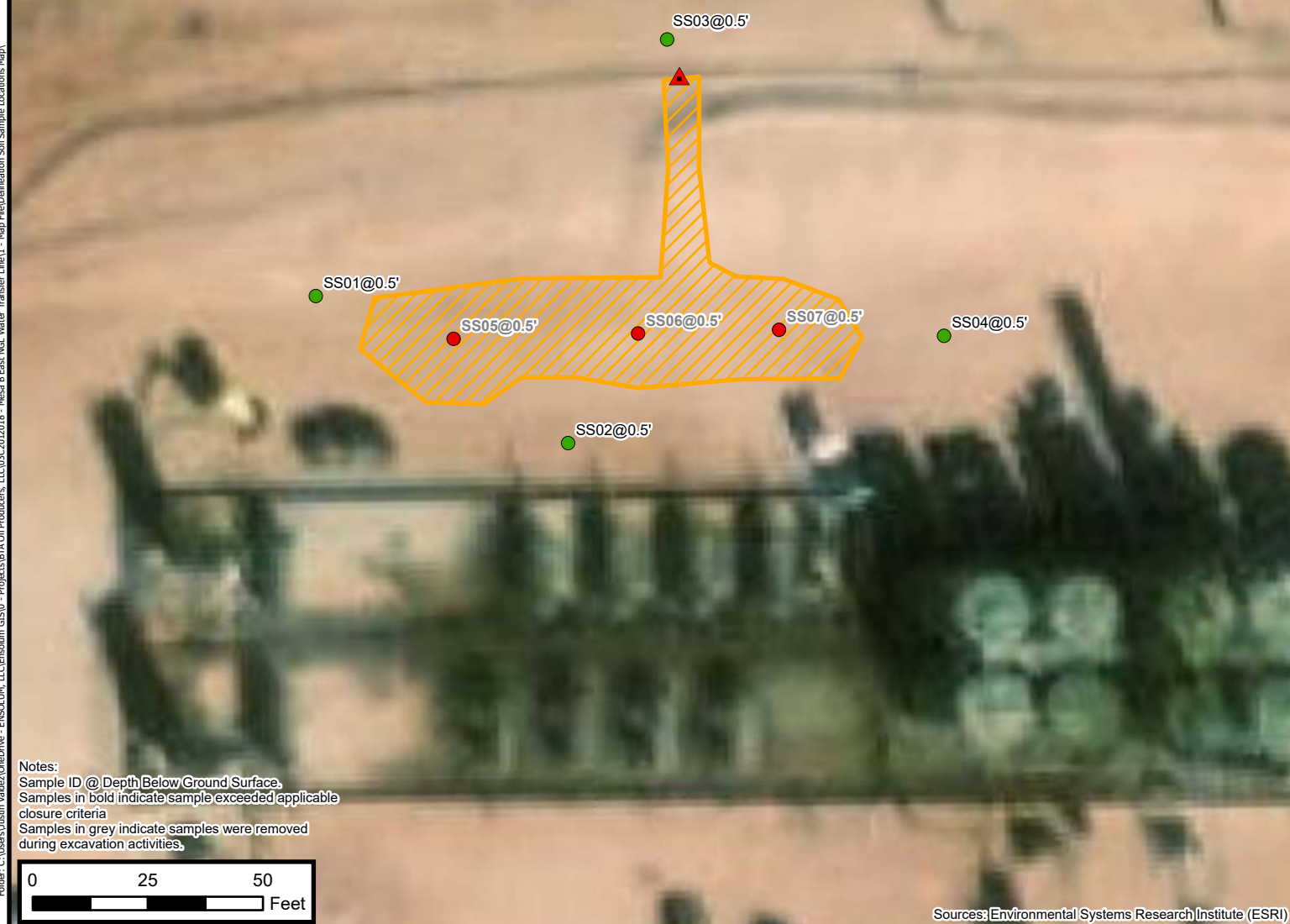
Site Receptor Map
BTA Oil Producers, LLC
Mesa B East NGL Water Transfer Line
Incident Number: nAPP2235558643
Unit A, Sec 7, T26S, R33E
Lea County, New Mexico

FIGURE
1

Legend

- Preliminary Soil Sample in Compliance with Closure Criteria
- Preliminary Soil Sample with Concentrations Exceeding Closure Criteria
- ▲ Point of Release (POR)
- Release Extent

Folder: C:\Users\Justin Velazquez\OneDrive - ENSOLUM, LLC\Ensolium GIS\0 - Projects\BTA Oil Producers, LLC\03202018 - Mesa B East NGL Water Transfer Line\1 - Map File\Definition Soil Sample Locations Map\



Assessment Soil Sample Locations

BTA Oil Producers, LLC
 Mesa B East NGL Water Transfer Line
 Incident Number: nAPP2235558643
 Unit A, Sec 7, T26S, R33E
 Lea County, New Mexico

FIGURE

2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- ▨ Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.

0 25 50
Feet

Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

BTA Oil Producers, LLC
Mesa B East NGL Water Transfer Line
Incident Number: nAPP2235558643
Unit A, Sec 7, T26S, R33E
Lea County, New Mexico

FIGURE

3



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Mesa B East NGL Water Transfer Line
 BTA Oil Producers, LLC
 Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Assessment Soil Samples										
SS01	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS02	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SS03	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS04	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS05	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,000
SS06	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,600
SS07	12/21/2022	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,560
Excavation Floor Soil Samples										
FS01	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS02	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
FS03	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS04	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS05	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS06	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS07	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS08	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS09	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS10	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS11	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS12	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS13	04/26/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Mesa B East NGL Water Transfer Line
BTA Oil Producers, LLC
Lea County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Excavation Sidewall Soil Samples										
SW01	04/26/2023	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW02	04/26/2023	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW03	04/26/2023	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW04	04/26/2023	0 - 2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

Gray text represents samples that have been excavated.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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OSE DTI AUG 2 2021 PM4:44

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4547			
	WELL OWNER NAME(S) BTA Oil Producers				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S. Pecos St.				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 32	SECONDS 3	14.34	N		
		LONGITUDE	103	36	16.96	W		
* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE SE SE Sec. 07 T26S R33E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/15/2021		DRILLING ENDED 07/15/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 112	DEPTH WATER FIRST ENCOUNTERED (FT) unknown	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 89.5		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	21	±8.5	Boring- HSA	--	--	--	--
	21	112	±3.5	Boring- Air Rotary	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

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

FILE NO. <u>C-4547</u>	POD NO. <u>1</u>	TRN NO. <u>698291</u>
LOCATION <u>26S-33E-07</u>	<u>4-4-2</u>	WELL TAG ID NO. <u>NA</u>

PAGE 1 OF 2

DSE DTI AUG 2 2021 PM4:44

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO				
	0	4	4	Caliche, Consolidated, White	Y ✓ N	
	4	44	40	Sand, Fine-grained, poorly graded, with caliche gravel, Redish Brown	Y ✓ N	
	44	51	7	Clay, Stiff, Dark Brown,	Y ✓ N	
	51	103	52	Sandstone, Fine-grained, poorly graded, Tan Brown	✓ Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm):	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:					0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring plugged using tremie pipe to total depth and landed cement slurry of <6.0 gallons of water per 94 lbs sack of Portland TYPE I/II Neat Cement. See attached Plugging Record	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt, Carmelo Trevino		

6. SIGNATURE	SIGNATURE OF DRILLER / PRINT SIGNEE NAME	DATE
	<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> Jackie D. Atkins </div> <div style="text-align: right;"> 07/29/2021 </div> </div>	

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4547	POD NO. 1	TRN NO.	
LOCATION 26S-33E-07 4-4-2	WELL TAG ID NO. NA	PAGE 2 OF 2	

2021-07-28_C-4547_POD1_OSE_Well Record and Log_mesa1-for sign

Final Audit Report

2021-07-29

Created: 2021-07-29

OSE DJT AUG 2 2021 PM4:44

By: Lucas Middleton (lucas@atkinseng.com)

Status: Signed

Transaction ID: CBJCHBCAABAA3aQOFUKeCXoHbozKpK1XeoMdl53lwclm

"2021-07-28_C-4547_POD1_OSE_Well Record and Log_mesa1-for sign" History

 Document created by Lucas Middleton (lucas@atkinseng.com)

2021-07-29 - 8:40:54 PM GMT- IP address: 69.21.248.123

 Document emailed to Jack Atkins (jack@atkinseng.com) for signature

2021-07-29 - 8:41:43 PM GMT

 Email viewed by Jack Atkins (jack@atkinseng.com)

2021-07-29 - 8:43:29 PM GMT- IP address: 64.90.153.232

 Document e-signed by Jack Atkins (jack@atkinseng.com)

Signature Date: 2021-07-29 - 8:44:00 PM GMT - Time Source: server- IP address: 64.90.153.232

 Agreement completed.

2021-07-29 - 8:44:00 PM GMT



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-04485		OWL 362		WELL TAG ID NO. NA		OSE FILE NO(S). C-04485				
	WELL OWNER NAME(S) KJ ENVIRONMENTAL						PHONE (OPTIONAL) 214-287-5875				
	WELL OWNER MAILING ADDRESS 500 MOSSELEY ROAD						CITY CROSS ROADS				
							STATE TX				
							ZIP 76227				
WELL LOCATION (FROM GPS)	DEGREES		MINUTES		SECONDS						
	LATITUDE		3548560		N		* ACCURACY REQUIRED: ONE TENTH OF A SECOND				
	LONGITUDE		629271		W		* DATUM REQUIRED: WGS 84				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE											
2. DRILLING & CASING INFORMATION	LICENSE NO. WD 1186		NAME OF LICENSED DRILLER RODNEY HAMMER				NAME OF WELL DRILLING COMPANY ENVIRO-DRILL, INC.				
	DRILLING STARTED 10/05/2020		DRILLING ENDED 10/06/2020		DEPTH OF COMPLETED WELL (FT) 55'		BORE HOLE DEPTH (FT) 55'				
	COMPLETED WELL IS:		<input type="checkbox"/> ARTESIAN		<input checked="" type="checkbox"/> DRY HOLE		<input type="checkbox"/> SHALLOW (UNCONFINED)				
	DRILLING FLUID:		<input type="checkbox"/> AIR		<input type="checkbox"/> MUD		ADDITIVES - SPECIFY:				
	DRILLING METHOD:		<input checked="" type="checkbox"/> ROTARY		<input type="checkbox"/> HAMMER		<input type="checkbox"/> CABLE TOOL				
							<input checked="" type="checkbox"/> OTHER - SPECIFY: HSA				
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)		CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)		CASING CONNECTION TYPE (add coupling diameter)				
	FROM	TO									
	55	45	8"	Screen	FJT	2"	2"	.010			
	45	0	8"	Blank	11	11	11	11			
3. ANNULAR MATERIAL		DEPTH (feet bgl)		BORE HOLE DIAM. (inches)		LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL		AMOUNT (cubic feet)		METHOD OF PLACEMENT	
FROM		TO									
55		43		8"		Sand 10/20		10		tremie	
43		41		8"		Hole Plug		1			
41		0		8"		Grout		100 gal.		↓	

FOR OSE INTERNAL USE

FILE NO. **C-0-2599** WR-20 WELL RECORD & LOG (Version 06/30/17)
 LOCATION **2-2-4** POD NO. **2N-33E-10** TRN NO. **693367**
 WELL TAG ID NO. **693367** PAGE 1 OF 2

603 AL-PLANEER OFFICE

Released to Imaging: 9/13/2023 10:06:44 AM



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DJT AUG 2 2021 PM 4:45

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4549			
	WELL OWNER NAME(S) BTA Oil Producers				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S. Pecos St.				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 4	SECONDS 40.92	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE 103	37	53.68	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW NW NW Sec. 11 T26S R32E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/14/2021		DRILLING ENDED 07/14/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 103	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	0 103		±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		

FOR OSE INTERNAL USE

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

FILE NO. C-4549	POD NO. 1	TRN NO. 698318
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA -

PAGE 1 OF 2

OSE DTI AUG 2 2021 PM4:45

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	4	4	Caliche, Consolidated, White	Y ✓ N	
	4	9	5	Caliche, Consolidated, with fine-grained, Tan	Y ✓ N	
	9	14	5	Caliche, Consolidated, White	Y ✓ N	
	14	19	5	Caliche, Consolidated, with fine-grained, Tan	Y ✓ N	
	19	69	50	Sand, Fine-grained poorly graded, with caliche, Tanish Brown	Y ✓ N	
	69	79	103	Clay, Stiff, High Plasticity, Dark Brown,	Y ✓ N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED	
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					WELL YIELD (gpm): 0.00	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface.	
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt, Carmelo Trevino		

6. SIGNATURE	SIGNATURE OF DRILLER / PRINT SIGNEE NAME	DATE
	<div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="text-align: center;"> Jackie D. Atkins </div> <div style="text-align: right;"> 07/29/2021 </div> </div>	

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4549	POD NO. 1	TRN NO. 698318	
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA	PAGE 2 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE 07 JUN 21 2021 #10113

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) C-4537 POD1		WELL TAG ID NO. 20E6C		OSE FILE NO(S). C-4537		
	WELL OWNER NAME(S) BASIN PROPERTIES RANCHES LLC				PHONE (OPTIONAL)		
	WELL OWNER MAILING ADDRESS 3300 N A STREET, BLDG 1, STE 220				CITY MIDLAND	STATE TX	
					ZIP 79705		
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 04	SECONDS 50.8	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
		LONGITUDE 103	36	10.7	W	* DATUM REQUIRED: WGS 84	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE							
2. DRILLING & CASING INFORMATION	LICENSE NO. WD1706		NAME OF LICENSED DRILLER Bryce Wallace			NAME OF WELL DRILLING COMPANY Elite Drillers Corporation	
	DRILLING STARTED 06/11/21	DRILLING ENDED 06/12/21	DEPTH OF COMPLETED WELL (FT) 500	BORE HOLE DEPTH (FT) 500	DEPTH WATER FIRST ENCOUNTERED (FT) 280		
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 280		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:						
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:						
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)
	FROM	TO					
	0	20	12 3/4	STEEL	N/A	8.28	.337
	0	300	7 7/8	SDR17 PVC	SPLINE	4.3	SDR17
	300	500	7 7/8	SDR17 PVC	SPLINE	4.3	SDR17
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT	
	FROM	TO					
	0	20	12 3/4	CEMENT	10	TOP FILL	
	0	20	7 7/8	CEMENT	6	TOP FILL	
	300	500	7 7/8	8/16 SILICA SAND	46	TOP FILL	

FOR OSE INTERNAL USE

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

FILE NO.	C-4537	POD NO.	1	TRN NO.	045385
LOCATION	SHK	255.33E.31.444	WELL TAG ID NO.	20E6C	PAGE 1 OF 2

DEC 07 JULY 2021 04:01:13

DEPTH (feet bgl)	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES <i>(attach supplemental sheets to fully describe all units)</i>	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5	SAND	Y ✓ N	
5	25	CALICHE	Y ✓ N	
25	220	RED CLAY & RED SILTSTONE	Y ✓ N	
220	340	RED SANDSTONE	✓ Y N	5.00
340	500	RED SANDSTONE & RED SILTSTONE	Y ✓ N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
			Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input checked="" type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER – SPECIFY:			TOTAL ESTIMATED WELL YIELD (gpm):	5.00
5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.		
	MISCELLANEOUS INFORMATION:			
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:				
6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:			

OSE DTI AUG 2 2021 PM4:44



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4548			
	WELL OWNER NAME(S) BTA Oil Producers				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S. Pecos St.				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32		MINUTES 3	SECONDS 49.57	N		
		LONGITUDE 103		39	9.68	W		
* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84								
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW NE NW Sec. 01 T26S R32E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/13/2021		DRILLING ENDED 07/13/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 110	DEPTH WATER FIRST ENCOUNTERED (FT) unknown	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 81.4		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	110	±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE

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

FILE NO. C-4548	POD NO. 1	TRN NO. 698307
LOCATION 26S-32E-01	1-2-1	WELL TAG ID NO. NA
		PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

5. TEST: RIG SUPERVISION

6. SIGNATURE

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4548	POD NO. 1	TRN NO. 698307	
LOCATION 26S-32E-61	1-2-1	WELL TAG ID NO NA	PAGE 2 OF 2



APPENDIX B

Photographic Log



Photographic Log

BTA Oil Producers, LLC
Mesa B East NGL Water Transfer Line
Incident Number nAPP2235558643



Photograph: 1 Date: 12/20/2022
Description: Initial release extent
View: Southwest



Photograph: 2 Date: 12/21/2022
Description: Initial assessment activities
View: Southwest



Photograph: 3 Date: 4/26/2023
Description: Excavation activities
View: East



Photograph: 4 Date: 4/26/2023
Description: Excavation activities
View: West



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

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

May 10, 2023

HADLIE GREEN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MESA B EAST/WEST NGL WATER TRANSFER LINE

Enclosed are the results of analyses for samples received by the laboratory on 12/22/22 10:55.

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

www.tceq.texas.gov/field/ga/lab_accred_certif.html.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS 01 @ 0.5'	H226044-01	Soil	21-Dec-22 11:00	22-Dec-22 10:55
SS 02 @ 0.5'	H226044-02	Soil	21-Dec-22 11:05	22-Dec-22 10:55
SS 03 @ 0.5'	H226044-03	Soil	21-Dec-22 11:10	22-Dec-22 10:55
SS 04 @ 0.5'	H226044-04	Soil	21-Dec-22 11:15	22-Dec-22 10:55
SS 05 @ 0.5'	H226044-05	Soil	21-Dec-22 11:20	22-Dec-22 10:55
SS 06 @ 0.5'	H226044-06	Soil	21-Dec-22 11:25	22-Dec-22 10:55
SS 07 @ 0.5'	H226044-07	Soil	21-Dec-22 11:30	22-Dec-22 10:55

05/10/23 - Client changed the sample IDs (see COC). This is the revised report and will replace the one sent on 12/27/22.

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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 01 @ 0.5'
H226044-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	48.0		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140 2122209 JH 22-Dec-22 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane 60.1 % 45.3-161 2122207 MS 22-Dec-22 8015B

Surrogate: 1-Chlorooctadecane 65.5 % 46.3-178 2122207 MS 22-Dec-22 8015B

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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 02 @ 0.5'
H226044-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	160		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %		69.9-140	2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane			85.2 %		45.3-161	2122207	MS	22-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			93.4 %		46.3-178	2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 03 @ 0.5'
H226044-03 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	48.0		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %	69.9-140		2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane			65.4 %	45.3-161		2122207	MS	22-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			71.2 %	46.3-178		2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 04 @ 0.5'
H226044-04 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	32.0		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

<i>Surrogate: 4-Bromofluorobenzene (PID)</i>			106 %	69.9-140		2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

<i>Surrogate: 1-Chlorooctane</i>			69.6 %	45.3-161		2122207	MS	22-Dec-22	8015B	
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<i>Surrogate: 1-Chlorooctadecane</i>			76.0 %	46.3-178		2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 05 @ 0.5'
H226044-05 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4000		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			106 %		69.9-140	2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane			72.1 %		45.3-161	2122207	MS	22-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			79.8 %		46.3-178	2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 06 @ 0.5'
H226044-06 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	3600		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %		69.9-140	2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane			70.8 %		45.3-161	2122207	MS	22-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			78.2 %		46.3-178	2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

SS 07 @ 0.5'
H226044-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	4560		16.0	mg/kg	4	2122216	AC	22-Dec-22	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Toluene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	2122209	JH	22-Dec-22	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	2122209	JH	22-Dec-22	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			107 %		69.9-140	2122209	JH	22-Dec-22	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	2122207	MS	22-Dec-22	8015B	

Surrogate: 1-Chlorooctane			71.8 %		45.3-161	2122207	MS	22-Dec-22	8015B	
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Surrogate: 1-Chlorooctadecane			78.8 %		46.3-178	2122207	MS	22-Dec-22	8015B	
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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
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

Inorganic Compounds - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 2122216 - 1:4 DI Water									
Blank (2122216-BLK1)					Prepared & Analyzed: 22-Dec-22				
Chloride	ND	16.0	mg/kg						
LCS (2122216-BS1)					Prepared & Analyzed: 22-Dec-22				
Chloride	416	16.0	mg/kg	400		104	80-120		
LCS Dup (2122216-BSD1)					Prepared & Analyzed: 22-Dec-22				
Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

Volatile Organic Compounds by EPA Method 8021 - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2122209 - Volatiles**Blank (2122209-BLK1)**

Prepared & Analyzed: 22-Dec-22

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0538		mg/kg	0.0500		108	69.9-140			

LCS (2122209-BS1)

Prepared & Analyzed: 22-Dec-22

Benzene	1.99	0.050	mg/kg	2.00		99.7	83.4-122			
Toluene	2.15	0.050	mg/kg	2.00		107	84.2-126			
Ethylbenzene	2.15	0.050	mg/kg	2.00		107	84.2-121			
m,p-Xylene	4.48	0.100	mg/kg	4.00		112	89.9-126			
o-Xylene	2.13	0.050	mg/kg	2.00		106	84.3-123			
Total Xylenes	6.61	0.150	mg/kg	6.00		110	89.1-124			
Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/kg	0.0500		104	69.9-140			

LCS Dup (2122209-BSD1)

Prepared & Analyzed: 22-Dec-22

Benzene	2.08	0.050	mg/kg	2.00		104	83.4-122	4.31	12.6	
Toluene	2.23	0.050	mg/kg	2.00		112	84.2-126	3.94	13.3	
Ethylbenzene	2.23	0.050	mg/kg	2.00		111	84.2-121	3.59	13.9	
m,p-Xylene	4.63	0.100	mg/kg	4.00		116	89.9-126	3.12	13.6	
o-Xylene	2.18	0.050	mg/kg	2.00		109	84.3-123	2.58	14.1	
Total Xylenes	6.81	0.150	mg/kg	6.00		113	89.1-124	2.94	13.4	
Surrogate: 4-Bromofluorobenzene (PID)	0.0518		mg/kg	0.0500		104	69.9-140			

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220

Project: MESA B EAST/WEST NGL WATER T
Project Number: 03C2012018
Project Manager: HADLIE GREEN
Fax To:

Reported:
10-May-23 09:50

Petroleum Hydrocarbons by GC FID - Quality Control**Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2122207 - General Prep - Organics**Blank (2122207-BLK1)**

Prepared & Analyzed: 22-Dec-22

GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	36.6		mg/kg	50.0		73.2	45.3-161			
Surrogate: 1-Chlorooctadecane	39.1		mg/kg	50.0		78.3	46.3-178			

LCS (2122207-BS1)

Prepared & Analyzed: 22-Dec-22

GRO C6-C10	199	10.0	mg/kg	200		99.7	76.8-124			
DRO >C10-C28	207	10.0	mg/kg	200		103	74.9-127			
Total TPH C6-C28	406	10.0	mg/kg	400		102	77.5-124			
Surrogate: 1-Chlorooctane	42.4		mg/kg	50.0		84.8	45.3-161			
Surrogate: 1-Chlorooctadecane	49.8		mg/kg	50.0		99.5	46.3-178			

LCS Dup (2122207-BS1)

Prepared & Analyzed: 22-Dec-22

GRO C6-C10	191	10.0	mg/kg	200		95.7	76.8-124	4.06	17.2	
DRO >C10-C28	199	10.0	mg/kg	200		99.7	74.9-127	3.61	18.6	
Total TPH C6-C28	391	10.0	mg/kg	400		97.7	77.5-124	3.83	17.6	
Surrogate: 1-Chlorooctane	41.3		mg/kg	50.0		82.7	45.3-161			
Surrogate: 1-Chlorooctadecane	47.5		mg/kg	50.0		95.0	46.3-178			

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

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

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Ensolum</u>				BILL TO				ANALYSIS REQUEST													
Project Manager: <u>Hadlie Green</u>				P.O. #:																	
Address: <u>3122 National Parks Hwy</u>				Company: <u>BTA Oil</u>																	
City: <u>Carlsbad</u> State: <u>NM</u> Zip: <u>88220</u>				Attn: <u>Bob Hall</u>																	
Phone #: <u>432-557-8895</u> Fax #:				Address: <u>104 S. Pecos St</u>																	
Project #: <u>03C2012018</u> Project Owner:				City: <u>Midland</u>																	
Project Name: <u>Mesa B East/West NGL Water Transfer Line</u>				State: <u>TX</u> Zip: <u>79701</u>																	
Project Location: <u>Lea</u>				Phone #: <u>432-312-2203</u>																	
Sampler Name: <u>Peter Van Patten</u>				Fax #:																	
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING													
Lab I.D.	Sample I.D.	(GRAB OR C/COMP.)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME							
<u>H2216044 S</u>	<u>*</u>																				
<u>1 #501 @ 0.5'</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1100</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>2 #502</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1105</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>3 #503</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1110</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>4 #504</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1115</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>5 #505</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1120</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>6 #506</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1125</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				
<u>7 #507</u>		<u>C</u>	<u>1</u>			<u>✓</u>				<u>✓</u>			<u>12-21</u>	<u>1130</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>				

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Relinquished By: <u>Peter Van Patten</u>	Date: <u>12-21-22</u> Time: <u>1055</u>	Received By: <u>Tamara Olden</u>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address: <u>hgreen@ensolum.com, t.morrissey@ensolum.com</u>
Delivered By: (Circle One)	Observed Temp. °C <u>30</u>	Sample Condition: <u>Cool</u> <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> No	REMARKS: <u>* Customer requested Sample Id changes to 12/22/22 changes T. 5/9/23</u>
Sampler - UPS - Bus - Other:	Corrected Temp. °C <u>21.4</u>	CHECKED BY: <u>TS</u> (Initials)	Turnaround Time: <u>Standard</u> <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #113 Correction Factor -0.5°C <u>3 day</u>
			Bacteria (only) Sample Condition: <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
			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

May 08, 2023

HADLIE GREEN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: MESA B EAST NGL WATER TRANSFER LINE

Enclosed are the results of analyses for samples received by the laboratory on 05/03/23 12:15.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 01 2' (H232185-01)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13	
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52	
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39	
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999	
Total BTX	<0.300	0.300	05/05/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.8 % 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, LLC
 HADLIE GREEN
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 02 2' (H232185-02)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13	
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52	
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39	
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999	
Total BTX	<0.300	0.300	05/05/2023	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	16.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 101 % 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, LLC
 HADLIE GREEN
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 03 2' (H232185-03)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTX	<0.300	0.300	05/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 04 2' (H232185-04)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	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



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 05 2' (H232185-05)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 79.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 06 2' (H232185-06)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13	
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52	
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39	
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999	
Total BTX	<0.300	0.300	05/05/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 07 2' (H232185-07)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 75.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 81.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 08 2' (H232185-08)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	192	96.1	200	19.5	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	192	96.0	200	18.4	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 77.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 09 2' (H232185-09)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 109 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 10 2' (H232185-10)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 97.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 11 2' (H232185-11)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTX	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 94.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 12 2' (H232185-12)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 96.5 % 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, LLC
 HADLIE GREEN
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: FS 13 2' (H232185-13)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 96.3 % 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, LLC
 HADLIE GREEN
 705 W WADLEY AVE.
 MIDLAND TX, 79705
 Fax To:

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: SW 01 0-2' (H232185-14)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 93.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: SW 02 0-2' (H232185-15)

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	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTEx	<0.300	0.300	05/05/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 93.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: SW 03 0-2' (H232185-16)

BTX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13		
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52		
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39		
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999		
Total BTX	<0.300	0.300	05/05/2023	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	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 95.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	05/03/2023	Sampling Date:	04/26/2023
Reported:	05/08/2023	Sampling Type:	Soil
Project Name:	MESA B EAST NGL WATER TRANSFER LI	Sampling Condition:	Cool & Intact
Project Number:	03C2012018	Sample Received By:	Tamara Oldaker
Project Location:	32.0625,-103.6145		

Sample ID: SW 04 0-2' (H232185-17)

BTX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/05/2023	ND	1.88	93.8	2.00	1.13	
Toluene*	<0.050	0.050	05/05/2023	ND	1.92	96.0	2.00	1.52	
Ethylbenzene*	<0.050	0.050	05/05/2023	ND	2.06	103	2.00	1.39	
Total Xylenes*	<0.150	0.150	05/05/2023	ND	6.00	100	6.00	0.999	
Total BTX	<0.300	0.300	05/05/2023	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	<16.0	16.0	05/04/2023	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	05/04/2023	ND	178	89.1	200	1.17	
DRO >C10-C28*	<10.0	10.0	05/04/2023	ND	161	80.7	200	2.05	
EXT DRO >C28-C36	<10.0	10.0	05/04/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager

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

Notes and Definitions

QR-04	The RPD for the BS/BSD was outside of historical limits.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																					
Project Manager: <i>Hydie Green</i>				P.O. #:																									
Address: 601 N. Marienfeld St. STE 400				Company: <i>Ensolum</i>																									
City: Midland State: TX Zip: 79701				Attn: <i>Kylei Jennings</i>																									
Phone #: <i>432-557-8895</i> Fax #:				Address:																									
Project #: <i>03C2012018</i> Project Owner:				City:																									
Project Name: <i>Mesa A East HGL Water Transfer Line</i>				State: Zip:																									
Project Location: <i>SR. 0625, 103 6145</i>				Phone #:																									
Sampler Name: <i>Kase Parker</i>				Fax #:																									
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING																					
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	BTEX	TPH	Chlorides										
	<i>H23285</i>	<i>F501</i>	<i>2'</i>	<i>C</i>	<i>1</i>			<i>X</i>							<i>4/26/23</i>	<i>1245</i>	<i>X</i>	<i>X</i>	<i>X</i>										
	<i>2</i>	<i>F502</i>														<i>1250</i>													
	<i>3</i>	<i>F503</i>														<i>1255</i>													
	<i>4</i>	<i>F504</i>														<i>1300</i>													
	<i>5</i>	<i>F505</i>														<i>1305</i>													
	<i>6</i>	<i>F506</i>														<i>1310</i>													
	<i>7</i>	<i>F507</i>														<i>1315</i>													
	<i>8</i>	<i>F508</i>														<i>1320</i>													
	<i>9</i>	<i>F509</i>														<i>1325</i>													
	<i>10</i>	<i>F510</i>														<i>1330</i>													

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

Relinquished By: <i>[Signature]</i>	Date: <i>5/3/23</i> Time: <i>1215</i>	Received By: <i>[Signature]</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address: BJennings@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: <i>1.4c</i> Corrected Temp. °C: <i>0.8c</i>	Sample Condition Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	REMARKS: <i>hgreen@ensolum.com</i>
		CHECKED BY: <i>[Signature]</i>	Turnaround Time: Standard <input type="checkbox"/> Rush <input type="checkbox"/>
			Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C
			Thermometer ID #113 Correction Factor -0.5°C

FORM-006 R 3.2 10/07/21

† 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

(575) 393-2326 FAX (575) 393-2476				BILL TO								ANALYSIS REQUEST															
Company Name: Ensolum, LLC				P.O. #:																							
Project Manager: Hydie Green				Company: Ensolum																							
Address: 601 N. Marienfeld St. STE 400				Attn: Kate Jennings																							
City: Midland State: TX Zip: 79701				Address:																							
Phone #: 432-557-8895 Fax #:				City:																							
Project #: 03C2012018 Project Owner:				State: Zip:																							
Project Name: Mesa B East High Water Transfer Line				Phone #:																							
Project Location: 32.0625, -103.6145				Fax #:																							
Sampler Name: Kase Parker																											
FOR LAB USE ONLY				MATRIX				PRESERV.		SAMPLING																	
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G/RAB OR (C)OMP. # CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
11	FS11	2'	1			X							4/26/23	1335	BTELO	TPH	Chlorides										
12	FS12	↓	1										↓	1340	↓	↓	↓										
13	FS13	↓	1										↓	1345	↓	↓	↓										
14	SW01	0-2'	1										↓	1350	↓	↓	↓										
15	SW02	↓	1										↓	1355	↓	↓	↓										
110	SW03	↓	1										↓	1400	↓	↓	↓										
17	SW04	↓	1										↓	1405	↓	↓	↓										
<small>PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.</small>																											
Relinquished By: 				Date: 5/3/23 Time: 12:15				Received By: 				Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone #:															
Relinquished By:				Date:				Received By:				All Results are emailed. Please provide Email address: B.Jennings@ensolum.com															
Relinquished By:				Date:				Received By:				REMARKS: hgreen@ensolum.com															
Delivered By: (Circle One)				Observed Temp. °C 1.4°C				Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				CHECKED BY: (Initials) 				Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>				Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No							
Sampler - UPS - Bus - Other:				Corrected Temp. °C 0.8°C												Thermometer ID #113 Correction Factor -0.5°C				Corrected Temp. °C							



APPENDIX D

NMOCD Notifications

From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 03/06/2023
Date: Thursday, March 2, 2023 9:10:14 AM
Attachments: [image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

[**EXTERNAL EMAIL**]

Hadlie,

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

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, March 2, 2023 6:56 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 03/06/2023

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 March 6, 2023.

- Mesa Dolphin Produced Water Poly Line/ nAPP2303736433
- Mesa B East NGL Water Transfer Line/ nAPP2235558643

Thank you,



Hadlie Green

Staff Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC

in f 

From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 03/13/2023
Date: Wednesday, March 8, 2023 5:17:29 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

[**EXTERNAL EMAIL**]

No problem! Thank you for the clarification.

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, March 8, 2023 4:17 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 03/13/2023

Hi,

My apologies, I didn't change the week date in the text itself. These sampling activities are scheduled for next week, March 13, 2023.

Thank you,



Hadlie Green
Project Manager
432-557-8895
hgreen@ensolum.com
Ensolum, LLC
in f

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Wednesday, March 8, 2023 5:15 PM
To: Hadlie Green <hgreen@ensolum.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 03/13/2023

[**EXTERNAL EMAIL**]

Hadlie,

Please be aware that notification requirements are **two business days**, per rule. Were you intending on giving notification for next week 3/13/2023? This, and all correspondence, should be included in the closure report to insure inclusion in the project file.

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, March 8, 2023 1:48 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 03/13/2023

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 March 6, 2023.

- Mesa Dolphin Produced Water Poly Line/ nAPP2303736433
- Mesa B East NGL Water Transfer Line/ nAPP2235558643
- Mesa B West Burned Poly Line / nAPP2303737335

Thank you,

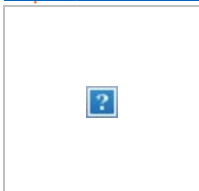
From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 04/17/2023
Date: Friday, April 14, 2023 10:36:22 AM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

[**EXTERNAL EMAIL**]

Hadlie,

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

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, April 13, 2023 8:48 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 04/17/2023

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 location the week of April 17, 2023.

- Mesa B West – Burned Water Transfer Poly Line / nAPP2303737335
 - Sampling Date: 4/17-18/2023 @ 9:00 AM MST
- Mesa B East NGL Water Transfer Line / nAPP2235558643
 - Sampling Date: 4/19-20/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)
Subject: RE: [EXTERNAL] BTA - Sampling Notification - Week of 04/24/2023
Date: Thursday, April 20, 2023 4:31:51 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

[**EXTERNAL EMAIL**]

Hadlie,

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

JH

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



From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, April 20, 2023 2:30 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; Bob Hall <bhall@btaoil.com>
Subject: [EXTERNAL] BTA - Sampling Notification - Week of 04/24/2023

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

All,

BTA anticipates collecting confirmation samples at the following location the week of April 17, 2023.

- Mesa B West – Burned Water Transfer Poly Line / nAPP2303737335
 - Sampling Date: 4/24-26/2023 @ 9:00 AM MST
- Mesa B East NGL Water Transfer Line / nAPP2235558643

- Sampling Date: 4/25-26/2023 @ 9:00 AM MST

Thank you,



Hadlie Green

Project Geologist

432-557-8895

hgreen@ensolum.com

Ensolum, LLC





APPENDIX E

Final C-141

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

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

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

Incident ID	nAPP2235558643
District RP	
Facility ID	fAPP2130022003
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) nAPP2235558643
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

Location of Release Source

Latitude: 32.062595 Longitude: -103.614578

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Mesa B East NGL Water Transfer Line	Site Type: Tank Battery
Date Release Discovered: 12/20/2022	API# (if applicable) Nearest well:

Unit Letter	Section	Township	Range	County
A	7	26S	33E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 114 BBL	Volume Recovered (bbls) 55 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

Static electricity, from a poly line carrying natural gas, caused a small fire that burned a hole in an adjacent poly water transfer line. Personnel onsite at the time observed the temporary fire and the formation of the leak in the poly water line. The leak was stopped in about 15 minutes. The wet soil was scraped and stockpiled on plastic on 12/21/2022. Spill calculation is attached.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2235558643
District RP	
Facility ID	fAPP2130022003
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? Yes – Release greater than 25 BBL.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes, via filing the NOR for the present Incident ID via the NMOCD Permitting Portal on 12/21/2022.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <u>not</u> been undertaken, explain why:
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Bob Hall Title: Environmental Manager Signature: _____ Date: 1/3/2023 email: bhall@btaoil.com Telephone: 432-682-3753
<u>OCD Only</u> Received by: <u>Jocelyn Harimon</u> Date: <u>01/03/2023</u>



Release Volume Calculator

This calculator estimates a spill volume based on the size and estimated saturation of the spill.

Location/Site Name Mesa B East/West NGL Water Transfer Line
GPS Coordinates 32.062595, -103.614578
Spill Date and Time 12/20/2022

Instructions: Input the spill parameters (dimensions) in **blue** text, and the spreadsheet calculates a potential spill volume. Other parameters can be changed as appropriate.

Area 3,150 square feet
 Saturation (or depth) 5.0 inches
 Percent Hydrocarbon 0 % Hydrocarbon (0-100)
 Porosity (choose one) 0.25

Saturated Soil Volume 48.61 cubic yards

Total Hydrocarbon (oil)	0.00 barrels
Total Produced Water	58.44 barrels

Types of Soil	Porosity Factor
Sand	0.20
Clay	0.05
Clay/Silt-Sandy Mix	0.15
Caliche	0.03
Gravel	0.25
Unknown	0.25

Area Name (ft2)	Saturation Depth (in)	Total Oil (bbls)	Total Water (bbls)
Stained Area (3,150 sq ft)	6	0	58.44
Totals:		0	58.44
Total Volume Released:			58.44

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 171938

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 171938
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	1/3/2023

Incident ID	nAPP2235558643
District RP	
Facility ID	fAPP2130022003
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>51-100</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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


Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2235558643
District RP	
Facility ID	fAPP2130022003
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 BeardTitle: Environmental ManagerSignature: Date: 6/12/2023email: KBeard@btaoil.comTelephone: 432-312-2203**OCD Only**Received by: Jocelyn HarimonDate: 06/13/2023

Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	nAPP2235558643
District RP	
Facility ID	fAPP2130022003
Application ID	

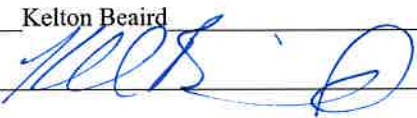
Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kelton Beaird Title: Environmental Manager
 Signature:  Date: 6/12/2023
 email: KBeaird@btaoil.com Telephone: 432-312-2203

OCD Only

Received by: Jocelyn Harimon Date: 06/13/2023

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

Closure Approved by:  Date: 09/13/2023
 Printed Name: Nelson Velez Title: Environmental Specialist - Adv

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

CONDITIONS

Action 226779

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 226779
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	9/13/2023