



March 12, 2024

New Mexico Oil Conservation Division

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

**Re: Revised Closure Request
Grayburg Eumont Strawn Battery
Incident Number NAPP2302036818
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared this *Revised Closure Request* to provide additional depth to groundwater documentation in response to the New Mexico Oil Conservation Division (NMOCD) denial of the original *Closure Request*, dated October 11, 2023.

On February 9, 2024, NMOCD denied the original *Closure Request* for the following reason:

- *Closure denied. Depth to groundwater is not verified. If nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, data must be no more than 25 years old, and well construction information must be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less.*

Based on the excavation activities, analytical results from the soil sampling events, and additional depth to groundwater documentation provided below, Maverick is submitting this *Revised Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2302036818.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit F, Section 25, Township 20 South, Range 37 East, in Lea County, New Mexico (32.5459° N, -103.2054° W) and is associated with oil and gas exploration and production operations on private land.

On January 5, 2023, a separator dump froze open and caused a tank to overflow. Approximately 20 barrels (bbls) of crude oil and 15 bbls of produced water were released onto the surface of the well pad. Approximately 20 bbls of crude oil and 10 bbls of produced water were recovered with a vacuum truck. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on January 16, 2023. The release was assigned Incident Number NAPP2302036818.

Maverick Permian, LLC
Revised Closure Request
Grayburg Eumont Strawn Battery

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the NMAC. Results from the characterization are summarized below and detailed in the NMOCD permitting portal Form C-141 Site Characterization section. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site was determined to be greater than 55 feet below ground surface (bgs) based on a recent soil boring drilled at the Site. Soil boring DTW-01 was drilled at the Site on March 6, 2024, to a depth of 55 feet bgs. A field geologist logged and described soil continuously. The borehole lithologic log is included in Appendix A. No groundwater was encountered in the borehole to a depth of 55 feet bgs. The borehole was left open for over 72 hours to allow for potential infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater is greater than 55 feet bgs at the Site. The borehole was properly abandoned using hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a intermittent stream, located approximately 3,524 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-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 AND SOIL SAMPLE ACTIVITIES

On March 16, 2023, Ensolum personnel were at the Site to evaluate the release based on information provided on the Form C-141 and visual observations. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B. On March 23, 2023, excavation activities were completed via backhoe and hand shovels to remove the impacted soil. The excavation was completed to an approximate depth of 0.5 feet to 1-foot bgs. The excavation was completed in an area of active production equipment and was backfilled immediately before any excavation confirmation samples were collected.

Between April 17, 2023 and September 5, 2023, Ensolum personnel were at the Site to complete assessment activities to confirm the removal of all impacted soil. Boreholes BH01 through BH11 were advanced via hand auger within and around the release extent to depths ranging from 2 feet to 3 feet bgs. Soil from the boreholes was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field

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screening results and observations for the boreholes were logged on lithologic soil sampling logs, which are included in Appendix C. Delineation soil samples were collected from each borehole at depths of 1-foot and 2 feet bgs. The borehole and delineation soil sample locations are presented on Figure 2.

The delineation 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 in Carlsbad, New Mexico, for analysis of the following contaminants of concern (COC): 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 4500.

Laboratory analytical results for the delineation samples collected from boreholes BH03 through BH07, advanced 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 the delineation samples collected from boreholes BH01 and BH08 through BH11, advanced within the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, the final depth samples, collected at 2 feet bgs, were compliant with the most stringent Table I Closure Criteria and defined the vertical extent of the release. The laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

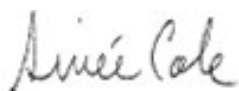
CLOSURE REQUEST

Site assessment activities were conducted at the Site to confirm the removal of impacted soil resulting from the January 5, 2023, release of crude oil and produced water onto the surface of the well pad. Delineation soil samples were collected within and around the release extent from depths ranging from 1-foot to 2 feet bgs. Laboratory analytical results for the delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, the release was laterally and vertically delineated to below the most stringent Table I Closure Criteria.

Initial response efforts and excavation of impacted soil have mitigated impacts at the Site. Based on initial response efforts, confirmed depth to groundwater greater than 55 feet bgs at the Site, and soil sample laboratory analytical results compliant with the Site Closure Criteria, no further remediation is required. Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2302036818. NMOCD notifications are provided in Appendix E and the Final Form C-141 is attached as Appendix F.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist

cc: Bryce Wagoner, Maverick Permian, LLC



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Appendices:

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



FIGURES



Site Receptor Map

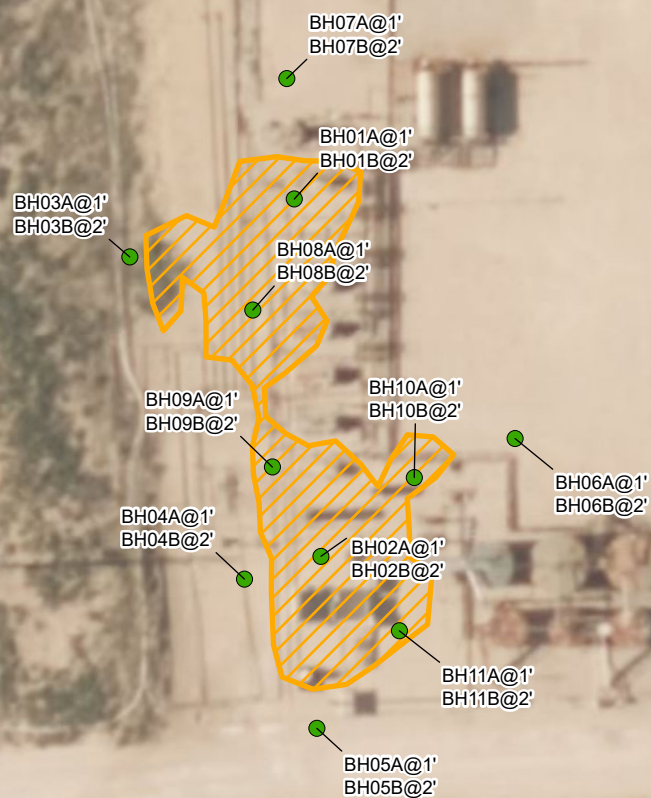
Maverick Permian, LLC
Grayburg Eumont Strawn Battery
Incident Number: NAPP2302036818
Unit F, Section 25, Township 20 South, Range 37 East
Lea County, New Mexico

FIGURE

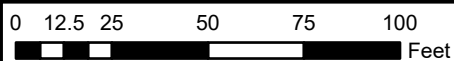
1

Legend

- Delineation Soil Sample
in Compliance with
NMOCD Closure Criteria
- Release Extent



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)

**Delineation Soil Sample Locations**

Maverick Permian, LLC
Grayburg Eumont Strawn Battery
Incident Number: NAPP2302036818
Unit F, Section 25, Township 20 South, Range 37 East
Lea County, New Mexico

FIGURE**2**



TABLES



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Grayburg Eumont Strawn Battery Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Date	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
Delineation Soil Samples										
BH01A	04/17/2023	1	<0.050	<0.300	<10.0	316	302	316	628	32.0
BH01B	04/17/2023	2	<0.050	<0.300	<10.0	196	169	196	365	32.0
BH02A	04/17/2023	1	<0.050	<0.300	<10.0	28.8	35.6	28.8	64	16.0
BH02B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH03A	04/17/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH03B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH04A	04/17/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH04B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH05A	04/17/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH05B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH06A	04/17/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH06B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH07A	04/17/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH07B	04/17/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH08	09/05/2023	1	<0.050	<0.300	<10.0	38.1	<10.0	38.1	38.1	16.0
BH08A	09/05/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
BH09	09/05/2023	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH09A	09/05/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH10	09/05/2023	1	<0.050	<0.300	<10.0	88.3	47.1	88.3	135.4	64.0
BH10A	09/05/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128.0
BH11	09/05/2023	1	<0.050	<0.300	<10.0	102.0	74.0	102.0	176.0	64.0
BH11A	09/05/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon


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

Grey text represents samples that have been excavated



APPENDIX A

Referenced Well Records

 ENSOLUM								Sample Name: DTW-01		Date: 03/06/2024	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03E2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Chad Hamilton		Method: Air Rotary	
Coordinates: 32.546323, -103.205162								Hole Diameter: 6"		Total Depth: 55'	
Comments: No field screening or sampling was conducted at this site.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
D					0	0	SW	0-10' Sand: yellow to tan, fine to very fine grain size, dry, non-plastic, non-cohesive, massive uniform			
D					10	10	SW	10-20' Sand: yellow to tan, fine to very fine grain size, dry, non-plastic, non-cohesive, massive uniform			
D					20	20	SW	20-30' Sand: yellow to tan, fine to very fine grain size, dry, non-plastic, non-cohesive, massive uniform			
D					30	30	SW	30-35' Sand: yellow to tan, fine to very fine grain size, dry, non-plastic, non-cohesive, massive uniform			
D					40	40	SC	35-40' Sand: interbedded white and brown to light brown, fine to very fine grain size, dry, non-plastic, non-cohesive, massive, uniform,			
							SC	40-45' Sand: Red to light brown, med to fine, moist, non-plastic, non-cohesive, massive, uniform, gradational			
M					50	50	SC	45-53' Clayey sand: White, fine to very fine, moist, non-plastic, non-cohesive, massive, uniform, abrupt			
M					55	55	CCHE	53' Caliche: White to yellow, thickly bedded, abrupt			
							SC	54-55' Sand: Light brown, med to fine, some clay, moist, non-plastic, non-cohesive, massive, uniform ,abrupt			
Total Depth @ 55' bgs.											



National Water Information System: Web Interface

USGS Water Resources

Data Category:
Groundwater

Geographic Area:
United States

GO

Click to hideNews Bulletins

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

Groundwater levels for the Nation

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

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 323307103113601

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 323307103113601 20S.38E.19.312141

Lea County, New Mexico
Latitude 32°33'07", Longitude 103°11'36" NAD27
Land-surface elevation 3,534 feet above NAVD88
The depth of the well is 115 feet below land surface.
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1954-04-02			D 62610		3454.12	NGVD29	1	Z		
1954-04-02			D 62611		3455.23	NAVD88	1	Z		
1954-04-02			D 72019	78.77			1	Z		
1961-02-28			D 62610		3453.28	NGVD29	1	Z		
1961-02-28			D 62611		3454.39	NAVD88	1	Z		
1961-02-28			D 72019	79.61			1	Z		
1966-03-08			D 62610		3446.84	NGVD29	1	Z		
1966-03-08			D 62611		3447.95	NAVD88	1	Z		
1966-03-08			D 72019	86.05			1	Z		
1968-04-08			D 62610		3451.86	NGVD29	1	Z		
1968-04-08			D 62611		3452.97	NAVD88	1	Z		
1968-04-08			D 72019	81.03			1	Z		
1971-01-28			D 62610		3451.34	NGVD29	1	Z		
1971-01-28			D 62611		3452.45	NAVD88	1	Z		
1971-01-28			D 72019	81.55			1	Z		
1976-01-29			D 62610		3450.16	NGVD29	1	Z		

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1976-01-29		D	62611		3451.27	NAVD88	1	Z		
1976-01-29		D	72019	82.73			1	Z		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)
Title: Groundwater for USA: Water Levels
URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)
Page Last Modified: 2023-01-30 13:43:26 EST
0.28 0.24 nadww02



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) L-15389-POD1		WELL TAG ID NO.		OSE FILE NO(S). L-15389			
	WELL OWNER NAME(S) MAVRICK NATURAL RESOURCES LLC				PHONE (OPTIONAL) 928-241-1862			
	WELL OWNER MAILING ADDRESS 1410 NW COUNTY ROAD				CITY HOBBS	STATE NM	ZIP 88240	
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 33	SECONDS 25.88	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE -103	13	11.88	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SEMU-EUMON # 068								
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1184		NAME OF LICENSED DRILLER RUSSELL SOUTHERLAND			NAME OF WELL DRILLING COMPANY WEST TEXAS WATER WELL SERVICE		
	DRILLING STARTED 9/27/2022	DRILLING ENDED 09/27/2022	DEPTH OF COMPLETED WELL (FT) 100	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)			
	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 checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER – SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
				NO CASING IN HOLE				
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						
				N/A				

OSE DIT OCT 14 2022 PM 2:31

FOR OSE INTERNAL USE

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

FILE NO. <u>L-15389</u>	POD NO. <u>1</u>	TRN NO. <u>733584</u>
LOCATION <u>205.37E.23.2.1.4</u>	WELL TAG ID NO. <u>—</u>	PAGE 1 OF 2



APPENDIX B

Photographic Log



Photographic Log

Maverick Permian, LLC
Grayburg Eumont Strawn Battery
NAPP2302036818



Photograph 1 Date: 03/16/23
Description: Soil staining in release footprint
View: Southeast



Photograph 2 Date: 03/16/23
Description: Soil staining in release footprint
View: Southeast



Photograph 3 Date: 03/23/23
Description: Remediation activities
View: East



Photograph 4 Date: 03/23/23
Description: Remediation activities
View: Southeast



Photographic Log

Maverick Permian, LLC

Grayburg Eumont Strawn Battery

NAPP2302036818



Photograph 5

Date: 4/17/2023

Description: Remediated and backfilled

View: Southwest



Photograph 6

Date: 4/17/2023

Description: Remediated and backfilled

View: South



Photograph 7

Date: 4/17/2023

Description: Remediated and backfilled

View: West



Photograph 7

Date: 3/6/2024


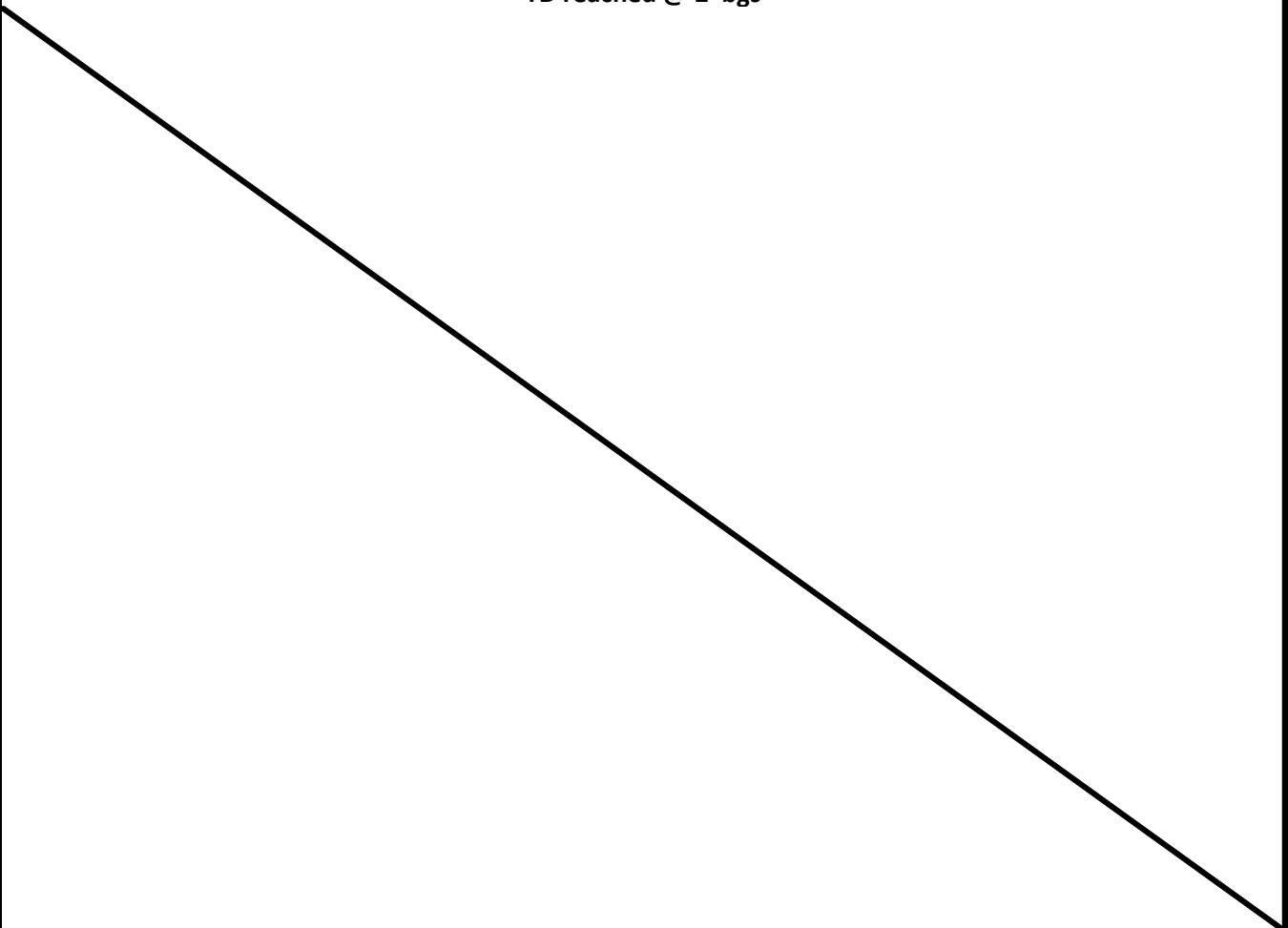
Description: Drilling depth to water boring


View: Southwest


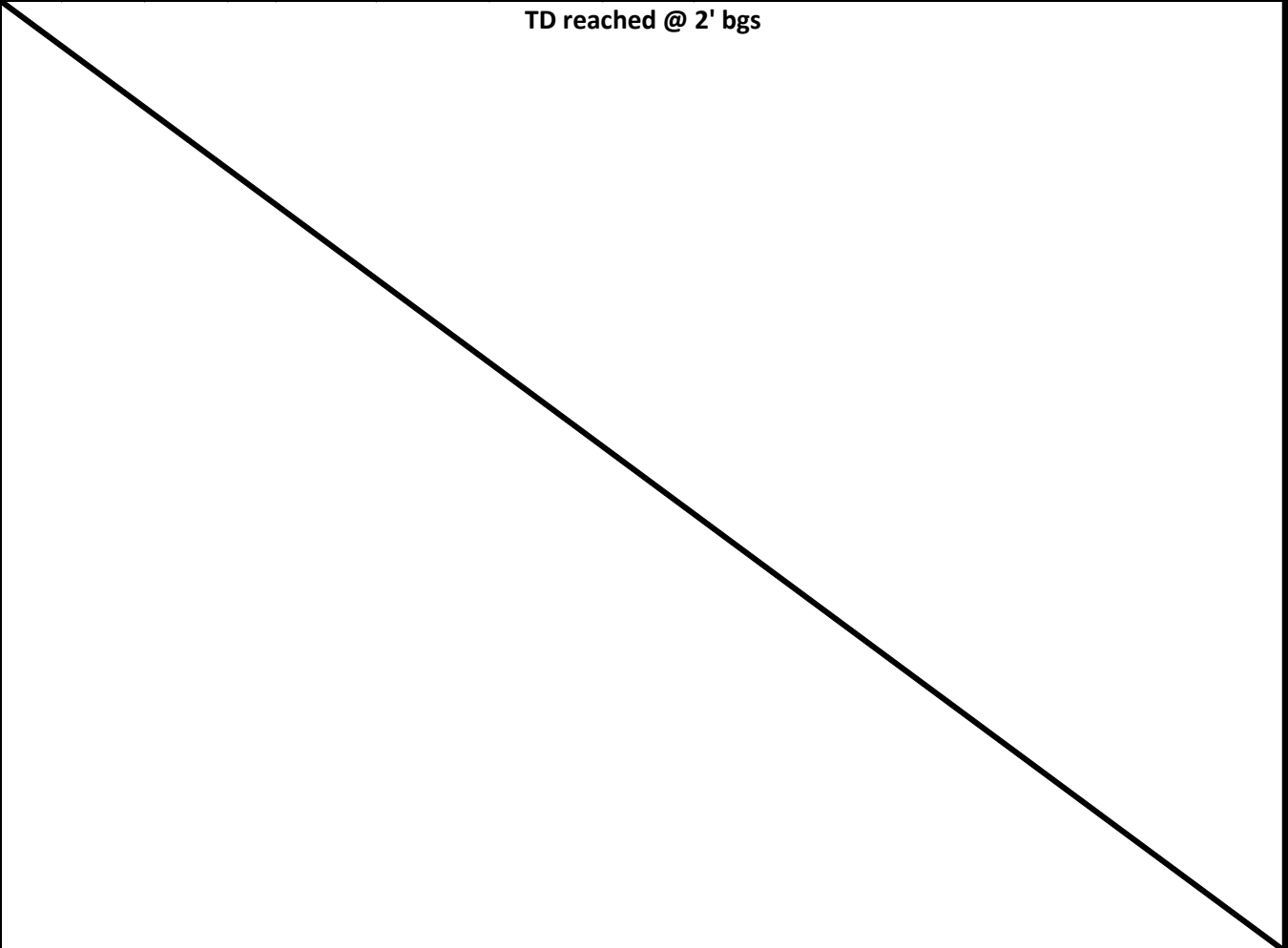



APPENDIX C


Lithologic Soil Sampling Logs


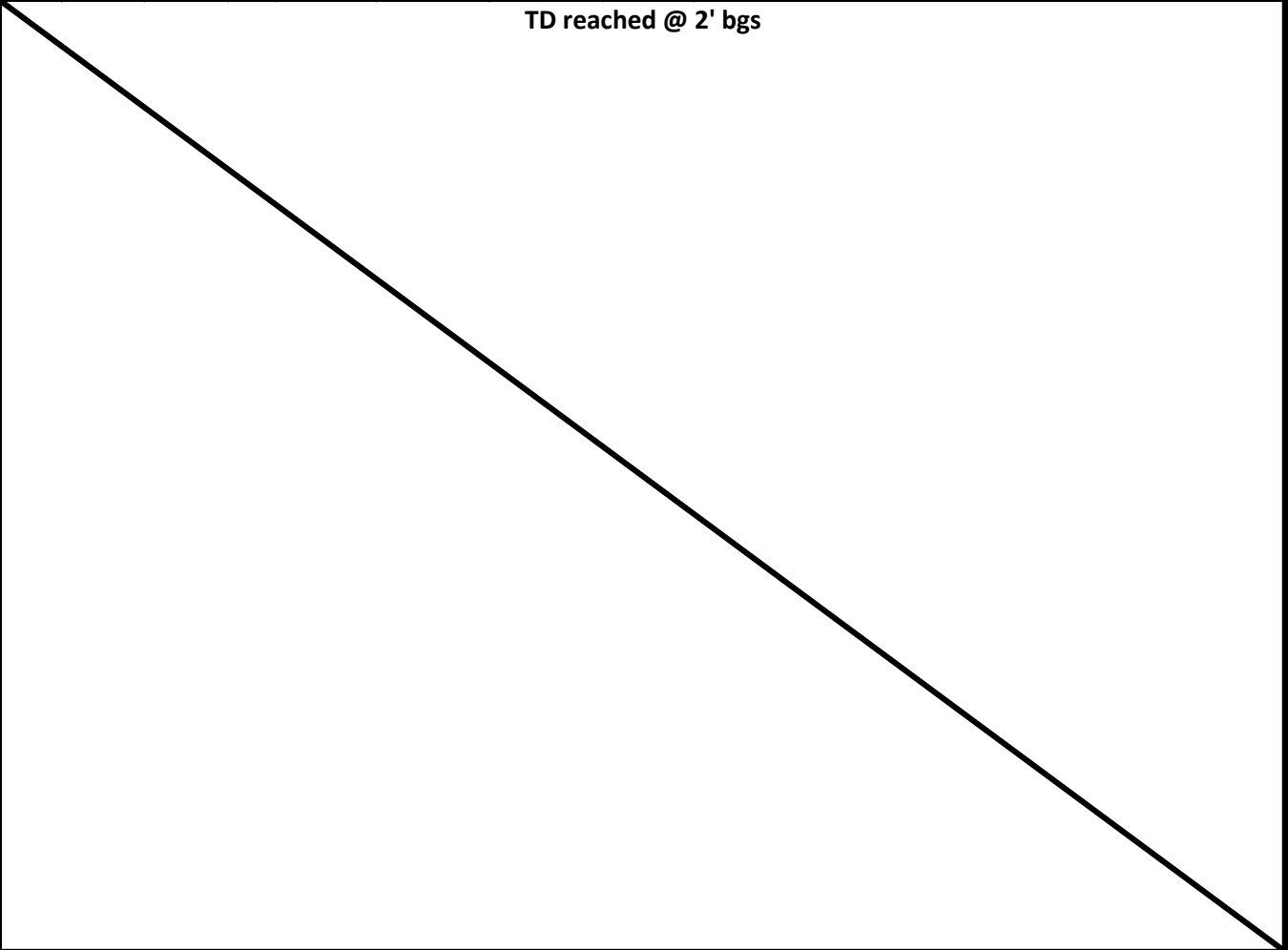
								Sample Name: BH01		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.546039, -103.205661								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.9	N	BH01A	1	1	SP-SM	SAND: fine grained, very silty, poorly graded, dark brown, non plastic, non cohesive, no odor			
Dry	<168	0.9	N	BH01B	2	2	SP-SM	SAND: fine grained, very silty, poorly graded, dark brown, non plastic, non cohesive, no odor			
TD reached @ 2' bgs											
											


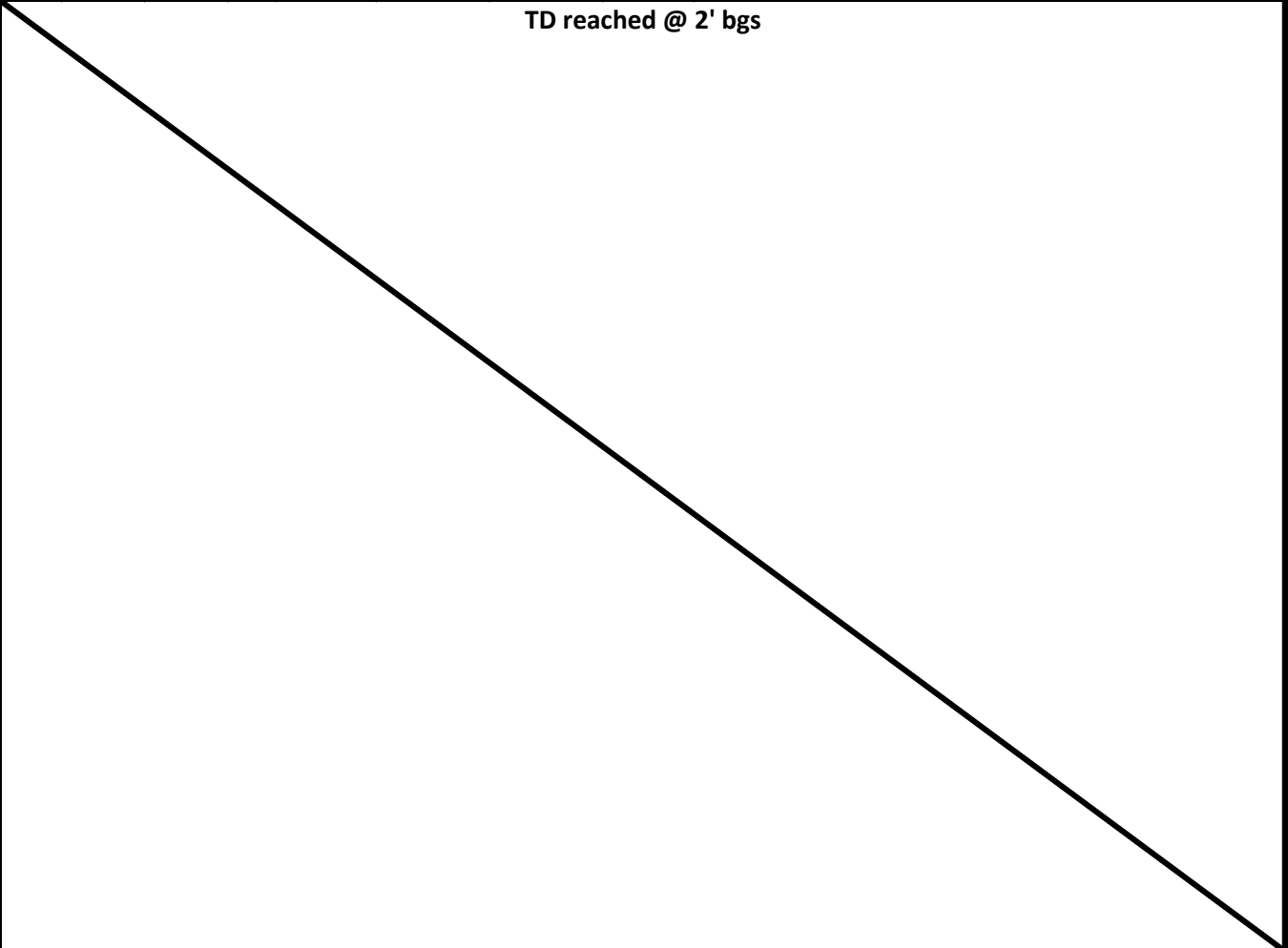
								Sample Name: BH02		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.545746, -103.205638								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.9	N	BH02A	1	1	SP-SM	SAND: fine grained, very silty, poorly graded, tan - medium brown, non plastic, no odor.			
Dry	<168	0.2	N	BH02B	2	2	SP-SM	SAND: fine grained, very silty, poorly graded, tan - medium brown, non plastic, no odor.			
TD reached @ 2' bgs											
<div style="position: absolute; top: 0; right: 0; width: 100%; height: 100%; border-left: 2px solid black; border-bottom: 2px solid black;"></div>											


								Sample Name: BH03		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.545999, -103.205801								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.6	N	BH03A	1	1	SP-SM	SAND: fine grained, very silty, poorly graded, tan - medium brown, non plastic, non cohesive, no odor			
Dry	<168	0.8	N	BH03B	2	2	SP-SC	SAND: fine grained, very silty with trace amounts clay, poorly graded, tan - medium brown, low plasticity, non cohesive, no odor			
TD reached @ 2' bgs											
											


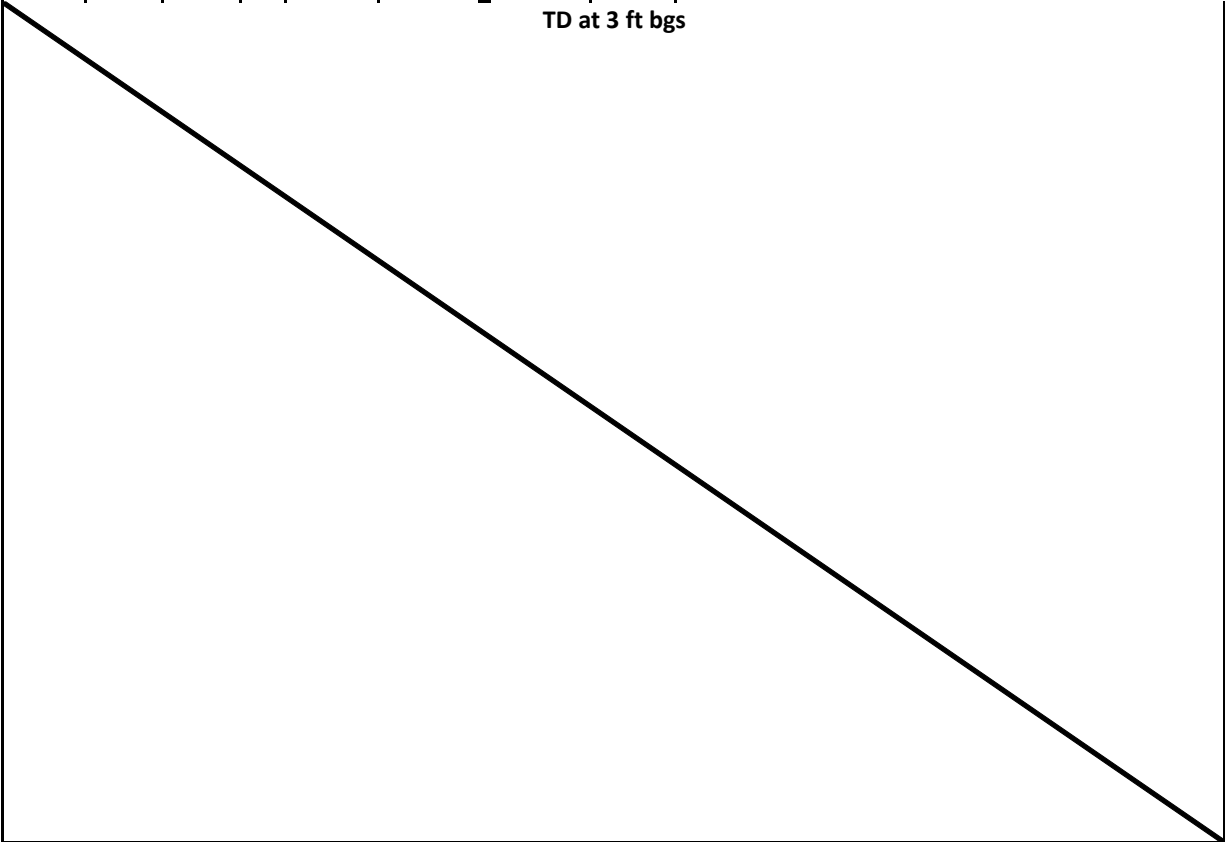
								Sample Name: BH04		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.545767, -103.205709								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.3	N	BH04A	1	1	SP-SM	SAND: fine grained, silty, poorly graded, tan-medium brown, non plastic, non cohesive, no odor			
Dry	<168	0.2	N	BH04B	2	2	SP-SM	SAND: fine grained, silty, poorly graded, tan-medium brown, non plastic, non cohesive, no odor			
TD reached @ 2' bgs											
<div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border-left: 2px solid black; border-right: 2px solid black; transform: rotate(45deg); transform-origin: center;"></div>											


								Sample Name: BH05		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.545660, -103.205650								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.7	N	BH05A	1	1	SP-SM	SAND: fine grained, silty, poorly graded, medium brown, non plastic, non cohesive, no odor.			
Dry	<168	0.2	N	BH05B	2	2	SP-SM	SAND: fine grained, silty, poorly graded, medium brown, non plastic, non cohesive, no odor.			
TD reached @ 2' bgs											


								Sample Name: BH06		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.545865, -103.205478								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.4	N	BH06A	1	1	SP-SM	SAND: fine grained, very silty, poorly graded, dark brown, non plastic, non cohesive, no odor.			
Dry	<168	0.5	N	Bh06B	2	2	SP-SM	SAND: fine grained, very silty, poorly graded, medium - dark brown, non plastic, non cohesive, no odor.			
TD reached @ 2' bgs											
											

								Sample Name: BH07		Date: 04/17/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: J.Falcomata		Method: Hand Auger	
Coordinates: 32.546125, -103.205666								Hole Diameter: 4"		Total Depth: 2'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Dry	<168	0.9	N	BH07A	1	1	SP-SM	SAND: fine grained, very silty, poorly graded, tan - medium brown, non plastic, non cohesive, no odor.			
Dry	<168	0.7	N	BH07B	2	2	SP-SM	SAND: fine grained, very silty, poorly graded, tan - medium brown, non plastic, non cohesive, no odor.			
TD reached @ 2' bgs											
											

 ENSOLUM								Sample Name: BH08		Date: 9/5/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Hand Auger	
Coordinates: 32.545959, -103.205698								Hole Diameter: 4"		Total Depth: 3 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Moist	<173.8	3.7	N	BH08	1	1	SP-SM	SAND, very fine-fine, poorly graded, tan-med brown some cohesiveness, silty.			
Moist	<173.8	1.1	N	BH08A	2	2	SAA	SAA			
Moist	<173.8	0.9	N	BH08B	3	3	SAA	SAA			
TD at 3 ft bgs											

 ENSOLUM								Sample Name: BH09		Date: 9/5/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Hand Auger	
Coordinates: 32.545847, -103.205682								Hole Diameter: 4"		Total Depth: 3 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Moist	<173.8	0.8	N	BH09	1	1	SP-SM	SAND, very fine-fine, poorly graded, tan-med brown some cohesiveness, silty.			
Moist	<173.8	2.1	N	BH09A	2	2	SAA	SAA, very cohesive			
Moist	<173.8	0.5	N	BH09B	3	3	SAA	SAA			
TD at 3 ft bgs											
											

 ENSOLUM								Sample Name: BH10		Date: 9/5/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Hand Auger	
Coordinates: 32.545839, -103.205564								Hole Diameter: 4"		Total Depth: 2 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Moist	<173.8	0.9	N	BH10	1	1	SP-SM	SAND, very fine-fine, poorly graded, tan-med brown little cohesiveness, silty.			
Moist	<173.8	0.3	N	BH10A	2	2	SAA	SAA			
TD at 2 ft bgs											
<div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black;"></div>											

 ENSOLUM								Sample Name: BH11		Date: 9/5/23	
								Site Name: Grayburg Eumont Strawn Battery			
								Incident Number: nAPP2302036818			
								Job Number: 03D2057063			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Ronni Hayes		Method: Hand Auger	
Coordinates: 32.545731, -103.205581								Hole Diameter: 4"		Total Depth: 2 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
Moist	<173.8	1.1	N	BH11	1	1	SP-SM	SAND, very fine-fine, poorly graded, tan-med brown some limestone gravel, no odor, no staining			
Moist	<173.8	2.5	N	BH11A	2	2	SAA	SAA			
Moist	<173.8	0.2	N	BH11B	3	3	SAA	SAA			
TD at 3 ft bgs											
<div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black;"></div>											



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



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

April 21, 2023

KALEI JENNINGS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAYBURG EUMONT STRAWN BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 04/17/23 15:17.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 01A @ 1' (H231839-01)

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	04/20/2023	ND	1.97	98.7	2.00	2.01	
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36	
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170	
Total BTX	<0.300	0.300	04/20/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	316	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	302	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 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
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 01B @ 2' (H231839-02)

BTEx 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTEX	<0.300	0.300	04/20/2023	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	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	196	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	169	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 98.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 02A @ 1' (H231839-03)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	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	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	28.8	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	35.6	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 97.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 02B @ 2' (H231839-04)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTEX	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 03A @ 1' (H231839-05)

BTX 8021B		mg/kg		Analyzed By: JH/						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	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	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 03B @ 2' (H231839-06)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 94.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 113 % 49.1-148

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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 04A @ 1' (H231839-07)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 99.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 04B @ 2' (H231839-08)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	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	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 98.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 05A @ 1' (H231839-09)

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	04/20/2023	ND	1.97	98.7	2.00	2.01	
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18	
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36	
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170	
Total BTEX	<0.300	0.300	04/20/2023	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	<16.0	16.0	04/19/2023	ND	448	112	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 05B @ 2' (H231839-10)

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	04/20/2023	ND	1.97	98.7	2.00	2.01		
Toluene*	<0.050	0.050	04/20/2023	ND	2.09	105	2.00	2.18		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.09	104	2.00	1.36		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.50	108	6.00	0.170		
Total BTX	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	04/19/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 95.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 06A @ 1' (H231839-11)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/20/2023	ND	1.98	98.9	2.00	11.3		
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.22	111	2.00	14.5		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.77	113	6.00	14.9		
Total BTEX	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	04/19/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 06B @ 2' (H231839-12)

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	04/20/2023	ND	1.98	98.9	2.00	11.3		
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.22	111	2.00	14.5		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.77	113	6.00	14.9		
Total BTX	<0.300	0.300	04/20/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 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	04/19/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 07A @ 1' (H231839-13)

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	04/20/2023	ND	1.98	98.9	2.00	11.3		
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.22	111	2.00	14.5		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.77	113	6.00	14.9		
Total BTEx	<0.300	0.300	04/20/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	04/19/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 97.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 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
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	04/17/2023	Sampling Date:	04/17/2023
Reported:	04/21/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	** (See Notes)
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	32.5459-103.2054		

Sample ID: BH 07B @ 2' (H231839-14)

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	04/20/2023	ND	1.98	98.9	2.00	11.3		
Toluene*	<0.050	0.050	04/20/2023	ND	2.03	102	2.00	12.6		
Ethylbenzene*	<0.050	0.050	04/20/2023	ND	2.22	111	2.00	14.5		
Total Xylenes*	<0.150	0.150	04/20/2023	ND	6.77	113	6.00	14.9		
Total BTEx	<0.300	0.300	04/20/2023	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	04/19/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/20/2023	ND	163	81.6	200	0.510	
DRO >C10-C28*	<10.0	10.0	04/20/2023	ND	191	95.5	200	3.88	
EXT DRO >C28-C36	<10.0	10.0	04/20/2023	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- 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 black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 17 of 18



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Cardinal LLC</u> Project Manager: <u>Kevin Williams</u> Address: <u>312 N. 1st St. Hobbs, NM</u> City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88220</u> Phone #: <u>505-683-2303</u> Fax #: _____ Project #: <u>1302057063</u> Project Owner: <u>Maverick</u> Project Name: <u>Groundwater Contamination Investigation</u> Project Location: <u>2851 St. 1st St. Hobbs, NM</u> Sampler Name: <u>Juliana Falcone</u>		BILL TO P.O. #: <u>AA</u> Company: _____ Attn: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone #: _____ Fax #: _____		ANALYSIS REQUEST	
FOR LAB USE ONLY		MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: _____		PRESERV. ACID/BASE: _____ ICE / COOL: <input checked="" type="checkbox"/> _____ OTHER: _____	
SAMPLING		DATE		TIME	
Lab I.D.		Sample I.D.		TPH BTEX Chlorides	
<u>11</u> <u>12</u> <u>13</u> <u>14</u>		<u>BT06A</u> <u>BT06B</u> <u>BT07A</u> <u>BT07B</u>		<u>021</u> <u>0021</u> <u>001</u> <u>002</u>	
<u>4/17/23</u> <u>4/17/23</u> <u>1305</u> <u>1315</u>		<u>1300</u> <u>1305</u> <u>1315</u> <u>1315</u>		<u>X</u> <u>X</u> <u>X</u> <u>X</u>	
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Relinquished By: <u>Juliana Falcone</u> Date: <u>4-17-23</u> Time: <u>15:17</u>		Received By: <u>Kevin Williams</u> Date: <u>4-17-23</u> Time: <u>15:17</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #: _____ All Results are emailed. Please provide Email address: <u>kevin.williams@cardinalllabsnm.com</u>	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____		Observed Temp. °C <u>8.6</u> Corrected Temp. °C <u>8.0</u>		Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only) Sample Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____	
Turnaround Time: _____ Thermometer ID #113 <u>Rush</u> Correction Factor -0.8°C		Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Bacteria (only) Sample Condition <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C _____ Corrected Temp. °C _____		REMARKS: <u>Handwritten notes and signatures</u>	

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



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

September 07, 2023

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: GRAYBURG EUMONT STRAWN BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 09/05/23 13:31.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/05/2023	Sampling Date:	09/05/2023
Reported:	09/07/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.5459-103.2054		

Sample ID: BH 08 @ 1' (H234797-01)

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	09/06/2023	ND	1.99	99.4	2.00	1.89	
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12	
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06	
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21	
Total BTX	<0.300	0.300	09/06/2023	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	193	96.3	200	3.57	
DRO >C10-C28*	38.1	10.0	09/06/2023	ND	201	100	200	1.22	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/05/2023	Sampling Date:	09/05/2023
Reported:	09/07/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.5459-103.2054		

Sample ID: BH 08A @ 2' (H234797-02)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEx	<0.300	0.300	09/06/2023	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	96.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	193	96.3	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/06/2023	ND	201	100	200	1.22	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 09/05/2023
 Reported: 09/07/2023
 Project Name: GRAYBURG EUMONT STRAWN BATTERY
 Project Number: 03D2057063
 Project Location: MAVERICK 32.5459-103.2054

Sampling Date: 09/05/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 09 @ 1' (H234797-03)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEx	<0.300	0.300	09/06/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	193	96.3	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/06/2023	ND	201	100	200	1.22	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 09/05/2023
 Reported: 09/07/2023
 Project Name: GRAYBURG EUMONT STRAWN BATTERY
 Project Number: 03D2057063
 Project Location: MAVERICK 32.5459-103.2054

Sampling Date: 09/05/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 09A @ 2' (H234797-04)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEX	<0.300	0.300	09/06/2023	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	16.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	193	96.3	200	3.57	
DRO >C10-C28*	<10.0	10.0	09/06/2023	ND	201	100	200	1.22	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/05/2023	Sampling Date:	09/05/2023
Reported:	09/07/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.5459-103.2054		

Sample ID: BH 10 @ 1' (H234797-05)

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	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEx	<0.300	0.300	09/06/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	191	95.7	200	0.230	
DRO >C10-C28*	88.3	10.0	09/06/2023	ND	188	94.2	200	0.899	
EXT DRO >C28-C36	47.1	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 79.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received: 09/05/2023
 Reported: 09/07/2023
 Project Name: GRAYBURG EUMONT STRAWN BATTERY
 Project Number: 03D2057063
 Project Location: MAVERICK 32.5459-103.2054

Sampling Date: 09/05/2023
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: BH 10A @ 2' (H234797-06)

BTEx 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEx	<0.300	0.300	09/06/2023	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	191	95.7	200	0.230	
DRO >C10-C28*	<10.0	10.0	09/06/2023	ND	188	94.2	200	0.899	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 89.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 95.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/05/2023	Sampling Date:	09/05/2023
Reported:	09/07/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.5459-103.2054		

Sample ID: BH 11 @ 1' (H234797-07)

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	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEX	<0.300	0.300	09/06/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	191	95.7	200	0.230	
DRO >C10-C28*	102	10.0	09/06/2023	ND	188	94.2	200	0.899	
EXT DRO >C28-C36	74.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 81.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	09/05/2023	Sampling Date:	09/05/2023
Reported:	09/07/2023	Sampling Type:	Soil
Project Name:	GRAYBURG EUMONT STRAWN BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03D2057063	Sample Received By:	Tamara Oldaker
Project Location:	MAVERICK 32.5459-103.2054		

Sample ID: BH 11A @ 2' (H234797-08)

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	09/06/2023	ND	1.99	99.4	2.00	1.89		
Toluene*	<0.050	0.050	09/06/2023	ND	2.24	112	2.00	3.12		
Ethylbenzene*	<0.050	0.050	09/06/2023	ND	2.27	113	2.00	5.06		
Total Xylenes*	<0.150	0.150	09/06/2023	ND	6.60	110	6.00	4.21		
Total BTEX	<0.300	0.300	09/06/2023	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/06/2023	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/06/2023	ND	191	95.7	200	0.230	
DRO >C10-C28*	<10.0	10.0	09/06/2023	ND	188	94.2	200	0.899	
EXT DRO >C28-C36	<10.0	10.0	09/06/2023	ND					

Surrogate: 1-Chlorooctane 87.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager

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

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

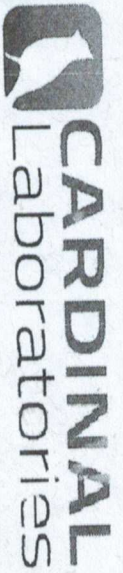
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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

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: Enslum LLC Project Manager: Anne Cole Address: 3122 National Parks Hwy City: Carlsbad State: NM Zip: 88220 Phone #: 720-384-7365 Fax #: Project #: 0302057003 Project Owner: Maxwell Project Name: Grayburg, Elmont & Strawn Battery Project Location: 32.5459, -103.2054. Sampler Name: Ryan Hays				P.O. #: Company: Attn: Anne Cole Address: City: State: Zip: Phone #: Fax #:					
BILL TO				ANALYSIS REQUEST					
FOR LAB USE ONLY									
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER : ACID/BASE: ICE / COOL OTHER :		MATRIX PRESERV. SAMPLING			
4234797		BH08 @ 1' BH08A @ 2' BH09 @ 1' BH09A @ 2' BH10 @ 1' BH10A @ 2' BH11 @ 1' BH11A @ 2'		G 1 X X X X X X X		DATE 9/5/23 10/17 10/20 10/10 10/15 11/30 09/35 09/57		TPH Cl- BTEX	
Relinquished By: <i>[Signature]</i> Relinquished Date: 9-5-23 Relinquished Time: 1331		Received By: <i>[Signature]</i> Received Date: <i>[Signature]</i> Received Time:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: All Results are emailed. Please provide Email address:		REMARKS: acce@enslum.com, falcemada@enslum.com			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Observed Temp. °C 4.1 Corrected Temp. °C		Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No CHECKED BY: (Initials) A.C.		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID #140 Correction Factor 0°C Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Observed Temp. °C Corrected Temp. °C			

FORM-006 R 3-07-11-20

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



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Laboratorias

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



APPENDIX E

NMOCD Notifications

From: [Enviro, OCD, EMNRD](#)
To: [Kalei Jennings](#)
Cc: [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)
Subject: RE: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 3/20/2023)
Date: Thursday, March 16, 2023 10:16:44 AM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

[**EXTERNAL EMAIL**]

Kalei,

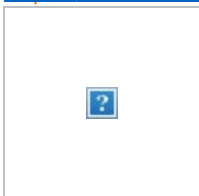
Kalei,

Thank you for the notification. The notification requirement is two full business days which for sampling on Monday would be at the latest at the end of the workday on Wednesday. If you can please provide specific times and dates of sampling in all future communications also, 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.

Thank you for your cooperation.

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: Kalei Jennings <kjennings@ensolum.com>
Sent: Thursday, March 16, 2023 7:29 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 3/20/2023)

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

All,

Maverick Permian, LLC (Maverick) plans to complete sampling activities at the following sites the week of March 20, 2023.

- SEMU Permian 37 / NAPP2305453661
- EVGSAU 2963-001/ NAPP2235371799
- Grayburg Eumont Straw Battery/ NAPP2302036818
- MCA 351/ NAPP2302034681
- MCA 254/ NAPP2302035947
- MCA 400/NAPP2305455050

Thank you,



Kalei Jennings

Senior Scientist

817-683-2503

Ensolum, LLC



From: [Harimon, Jocelyn, EMNRD](#)
To: [Kalei Jennings](#)
Subject: FW: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 4/10/2023)
Date: Monday, April 10, 2023 9:03:23 AM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

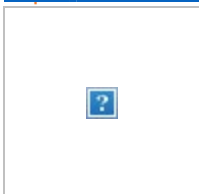
[**EXTERNAL EMAIL **]

Kalei,

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: Enviro, OCD, EMNRD
Sent: Monday, April 10, 2023 10:02 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 4/10/2023)

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: Kalei Jennings <kjennings@ensolum.com>
Sent: Friday, April 7, 2023 1:13 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 4/10/2023)

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

All,

Maverick Permian, LLC (Maverick) plans to complete sampling activities at the following site the week of April 10, 2023.

- Grayburg Eumont Straw Battery/ NAPP2302036818
 - Sampling Date: 4/12/2023 & 4/13/2023
- MCA 254/ NAPP2302035947
 - Sampling Date: 4/12/2023 – 4/14/2023
- EVGSAU 2418-001 / NAPP2231954757
 - Sampling Date: 4/13/2023
- EVGSAU 2963-001/ NAPP2235371799
 - Sampling Date: 4/14/2023
- MCA 151 / NAPP2235377174
 - Sampling Date: 4/14/2023
- Leamex 018/ NAPP2234158858
 - Sampling Date: 4/13/2023 & 4/14/2023

Thank you,



Kalei Jennings

Senior Scientist

817-683-2503

Ensolum, LLC



From: [Wells, Shelly, EMNRD](#)
To: [Aimee Cole](#)
Cc: [Bratcher, Michael, EMNRD](#); [Velez, Nelson, EMNRD](#)
Subject: RE: [EXTERNAL] Maverick - Sampling Notification (Week of 9/4/2023)
Date: Wednesday, August 30, 2023 2:02:54 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

[**EXTERNAL EMAIL**]

Good afternoon Aimee,

The OCD has received your notification. When reporting sampling at multiple locations it is required to provide the date and time for each location. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

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

From: Aimee Cole <acole@ensolum.com>
Sent: Wednesday, August 30, 2023 2:28 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick - Sampling Notification (Week of 9/4/2023)

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

Maverick Permian, LLC plans to complete sampling activities at the following sites the week of September 4, 2023.

- MCA 409 Flowline/ NAPP2318846991
 - Sampling Date: 9/5/2023
- ABO 3 Battery / nAPP2314448299
 - Sampling Date: 9/5/2023

- Grayburg Eumont Strawn Battery / NAPP2302036818
 - Sampling Date: 9/6/2023
- MCA 301 / NAPP2307558601
 - Sampling Dates: 9/5/2023 – 9/8/2023

Thank you,



Aimee Cole

Senior Managing Scientist

720-384-7365

Ensolum, LLC



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

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

QUESTIONS
Action 322507

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	322507
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2302036818
Incident Name	NAPP2302036818 GRAYBURG EUMONT STRAWN BATTERY @ 0
Incident Type	Other
Incident Status	Remediation Closure Report Received

Location of Release Source	
Please answer all the questions in this group.	
Site Name	GRAYBURG EUMONT STRAWN BATTERY
Date Release Discovered	01/05/2023
Surface Owner	Private

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure Production Tank Crude Oil Released: 20 BBL Recovered: 20 BBL Lost: 0 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure Production Tank Produced Water Released: 15 BBL Recovered: 10 BBL Lost: 5 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-2920

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS, Page 2

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	322507
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

Initial Response

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

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

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

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

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 03/12/2024
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QUESTIONS, Page 3

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	322507
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Site Characterization**

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

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Greater than 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan

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

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

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

Chloride	(EPA 300.0 or SM4500 Cl B)	128
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	628
GRO+DRO	(EPA SW-846 Method 8015M)	316
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	03/23/2023
On what date will (or did) the final sampling or liner inspection occur	09/05/2023
On what date will (or was) the remediation complete(d)	03/23/2023
What is the estimated surface area (in square feet) that will be reclaimed	3000
What is the estimated volume (in cubic yards) that will be reclaimed	115
What is the estimated surface area (in square feet) that will be remediated	4000
What is the estimated volume (in cubic yards) that will be remediated	150

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

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

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QUESTIONS, Page 4

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	322507
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS**Remediation Plan (continued)**

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

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

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	R360 Artesia LLC LANDFARM [FEEM0112340644]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

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

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

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 03/12/2024
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 5

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 322507
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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QUESTIONS, Page 6

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID:	331199
	Action Number:	322507
	Action Type:	[C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	322537
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/05/2023
What was the (estimated) number of samples that were to be gathered	22
What was the sampling surface area in square feet	4000

Remediation Closure Request

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

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	4000
What was the total volume (cubic yards) remediated	150
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	3000
What was the total volume (in cubic yards) reclaimed	115
Summarize any additional remediation activities not included by answers (above)	The soil remaining in-place above reclamation requirements (but below the Site Closure Criteria) is located in an area of active production equipment. Final reclamation of the areas around boreholes BH01, BH02, and BH10 will be completed during final abandonment of the facility.

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

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

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 03/12/2024
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QUESTIONS, Page 7

Action 322507

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 322507
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

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

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CONDITIONS

Action 322507

CONDITIONS

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	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	3/14/2024