ENSOLUM

August 7, 2023

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

Re: Remediation Work Plan
SEMU Permian #37
Incident Number NAPP2305453661
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared the following *Remediation Work Plan* (*Work Plan*) to address impacted soil resulting from a flowline rupture at the SEMU Permian #37 (Site). The following *Work Plan* proposes delineation of the release and excavation of impacted soil.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit L, Section 19, Township 20 South, Range 38 East, in Lea County, New Mexico (32.5566346°, -103.1960617°) and is associated with oil and gas exploration and production operations on Private Land.

On February 7, 2023, a surface flowline ruptured, resulting in the release of approximately 3 barrels (bbls) of crude oil and 15 bbls of produced water onto the surrounding pasture. No released fluids were recovered. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on February 17, 2023. The release was assigned Incident Number NAPP2305453661.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be between 51 and 100 feet below ground surface (bgs) based on the nearest available groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 323307103113601 located 0.34 miles southeast of the Site. The groundwater well has reported depth to groundwater of 82.73 feet bgs. Several other wells within a 1.5 mile radius of the site indicate regional depth to groundwater between 51 and 100 feet bgs. The most recent well is New Mexico Office of the State Engineer (NMOSE) well L-15414-POD1, located 1.0 mile east of the Site. The groundwater well was drilled during November

2022 to a depth of 103 feet bgs and no groundwater was encountered. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is Monument Draw, a dry wash, located approximately 2.5 miles 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 from a spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On February 16, 2023, Ensolum personnel were at the Site to complete site assessment activities based on information provided on the Form C-141 and visible surface staining observed in the pasture release area. Three assessment soil samples (SS01, SS02, and SS03) were collected within the release extent from a depth of 0.5 feet bgs. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for soil samples SS01, SS02, and SS03 indicated TPH-GRO/TPH-DRO and total TPH concentrations exceeded the Site Closure Criteria and reclamation requirement. Laboratory analytical results for soil sample SS03 indicated total BTEX concentrations also exceeded the Site Closure Criteria. Additionally, laboratory analytical results for soil samples SS02 and SS03 indicated chloride concentrations exceeded the reclamation requirement for the top four feet. The laboratory analytical results are summarized in Table 1

On March 2, 2023, Ensolum personnel returned to the site to complete additional assessment activities to delineate the vertical extent of the release. Five boreholes (BH01 through BH05) were advanced via

hand auger within the release extent to a depth of 5 feet bgs. Soil from the boreholes was field screened at 1-foot intervals for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. Field screening results and observations for the boreholes were logged on lithologic soil sampling logs, which are included in Appendix C. Two delineation samples were collected from each borehole at depths of 1-foot and 5 feet bgs. The soil samples were collected, handled, and analyzed as described above.

Laboratory analytical results for the delineation samples collected boreholes BH01, BH03, and BH04 indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Laboratory analytical results for the delineation samples collected boreholes BH02 and BH05 indicated that the 1-foot bgs samples exceeded the Site Closure Criteria and/or reclamation requirement for TPH-GRO/TPH-DRO, total TPH, and chloride. The soil samples collected at 5 feet bgs in boreholes BH02 and BH05 were compliant with the Site Closure Criteria, and defined the vertical extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

PROPOSED REMEDIATION WORKPLAN

Based on the Site assessment activities and delineation soil sample analytical results, Maverick proposes to complete the following remediation activities:

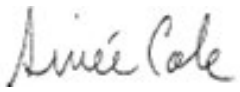
- Soil samples will be collected around the release extent from a depth of 0.5 feet bgs to confirm the lateral extent of the surface release. Proposed assessment soil sample locations are shown on Figure 2.
- Impacted soil will be excavated from the release area based on the assessment and delineation soil sample analytical results.
    - Excavation will proceed laterally until sidewall samples are compliant with the Site Closure Criteria and reclamation requirements in the top four feet.
    - Excavation will proceed vertically until floor samples are compliant with the Site Closure Criteria and reclamation requirements in the top four feet. If the excavation depth exceeds four feet bgs, the Site Closure Criteria will be applied below four feet.
    - Following removal of the impacted soil, 5-point composite confirmation samples will be collected at a frequency of every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples will be collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing.
- The assessment and excavation samples will be 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 will be transported under strict chain-of-custody procedures to Cardinal Laboratories for analysis of BTEX following United States EPA Method 8021B; TPH-GRO, TPH-DRO, and TPH-ORO following EPA Method 8015M/D; and chloride following EPA Method 4500.
- The impacted soil will be disposed of at a licensed disposal facility.
- The excavation will be backfilled and recontoured to match pre-existing conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.

Maverick will complete the delineation and excavation activities within 90 days of the date of approval of this *Work Plan* by the NMOCD. A final report requesting closure will be submitted within 30 days of receipt of final laboratory analytical results. Maverick believes the scope of work described above meets the requirements of 19.15.29 NMAC and is protective of human health, the environment, and

groundwater. As such, Maverick respectfully requests approval of this *Work Plan* for Incident Number NAPP2305453661. NMOCD notifications are provided in Appendix E and the 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

Appendices:

Figure 1	Site Receptor Map
Figure 2	Soil Sample Locations
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports
Appendix E	NMOCD Notifications
Appendix F	Form C-141

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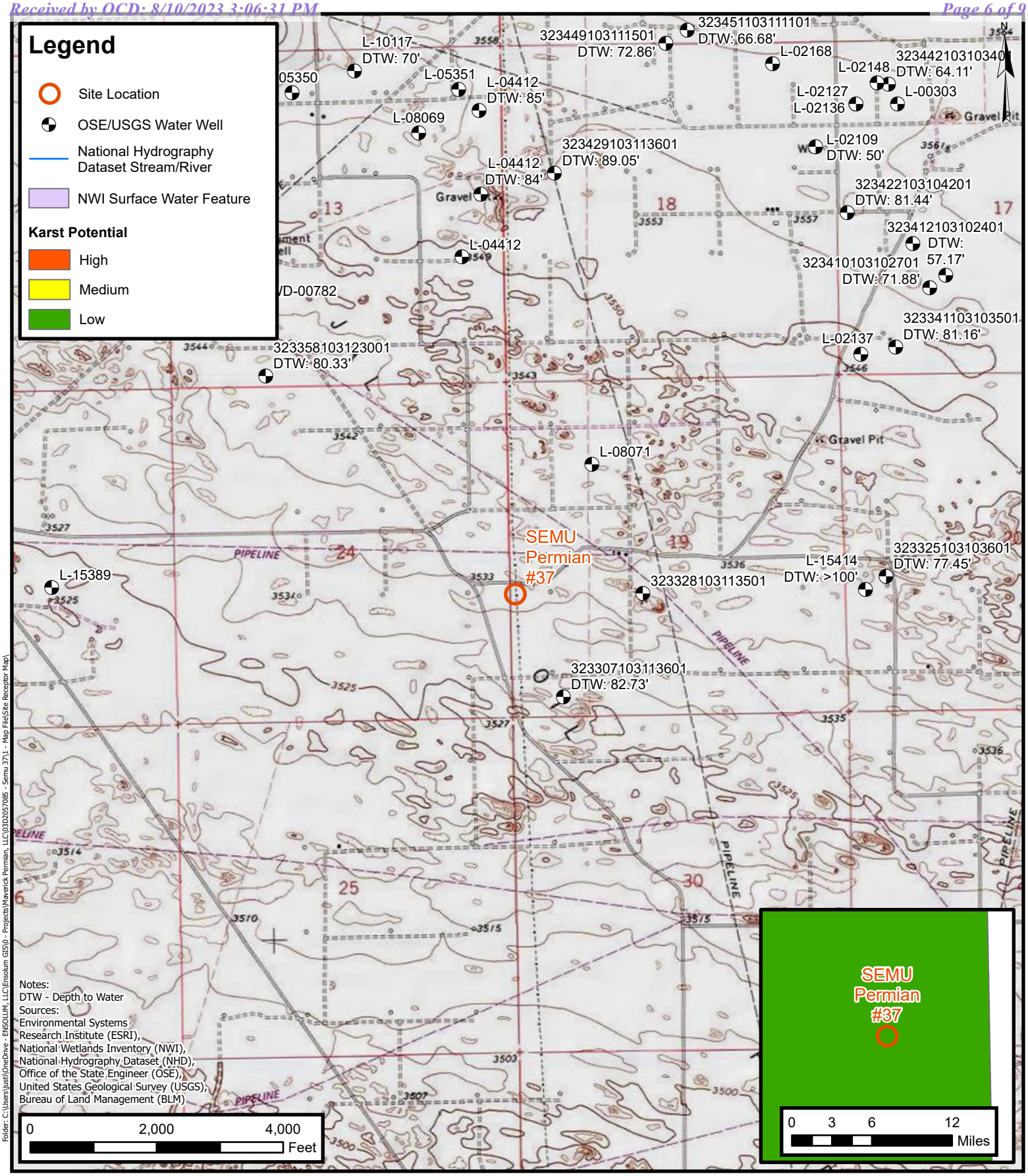
FIGURES



Folder: C:\Users\just\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\Maverick Permian, LLC\03202057085 - Semu 371 - Map File\Site Receptor Map\

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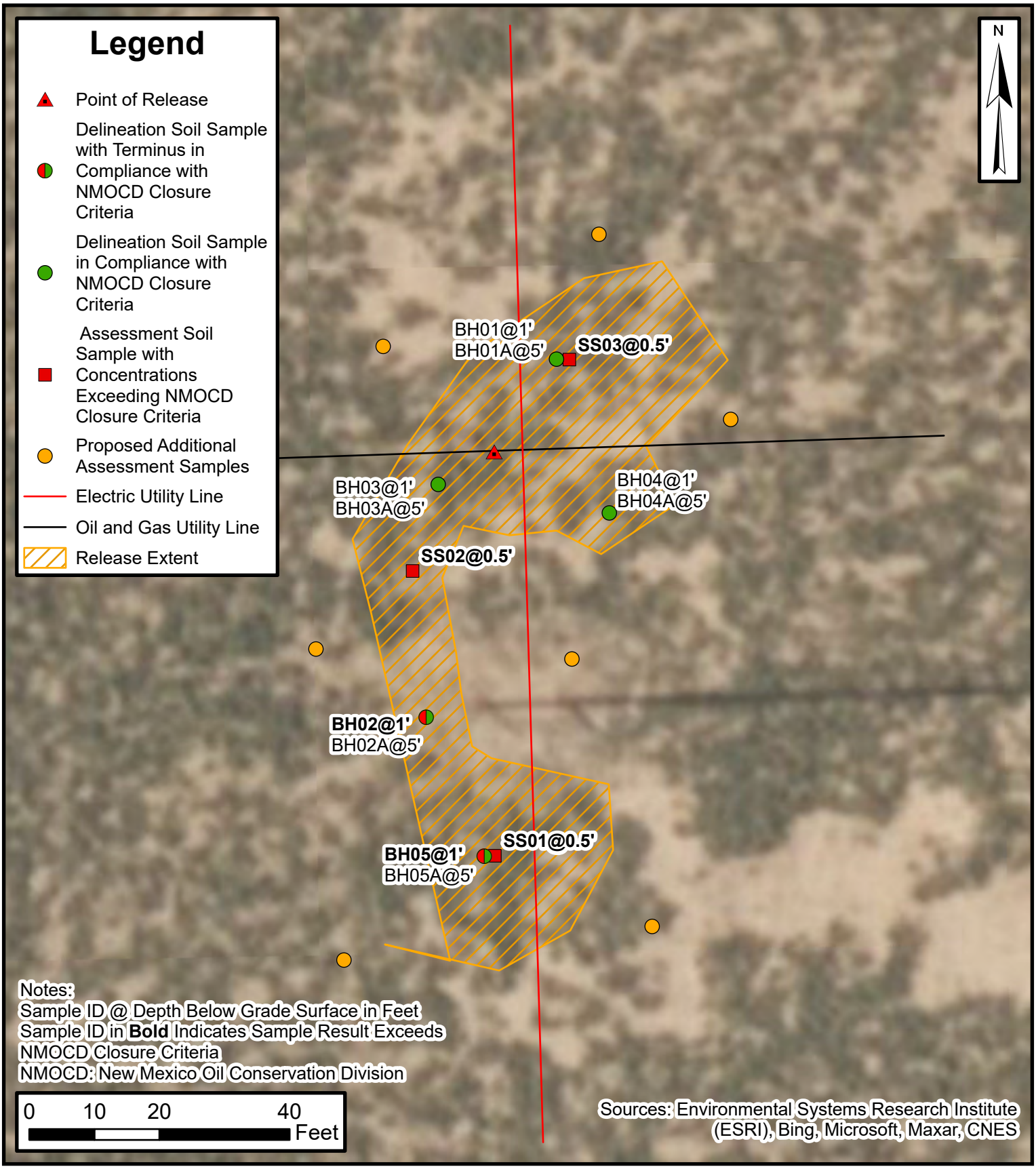
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Maverick Permian, LLC
SEMU Permian #37
Incident Number: NAPP230545366
Unit K, Sec 19, T20S, R38E
Lea County, New Mexico

FIGURE 1



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Soil Sample Locations

SEMU Permian #37
Maverick Permian, LLC
Incident Number: NAPP2305453661
Unit L, Sec 19, T20S, R38E
Lea County, New Mexico

FIGURE
2

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
SEMU Permian #37
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 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Assessment Soil Samples										
SS01	02/16/2023	0.5'	0.262	33.1	2,480	17,500	<997	**19,980**	**20,000**	571
SS02	02/16/2023	0.5'	<0.198	47.0	2,600	12,200	<999	**14,800**	**14,800**	**688**
SS03	02/16/2023	0.5'	0.524	**110**	3,800	11,900	<998	**15,700**	**15,700**	**702**
Delineation Soil Samples										
BH01	03/20/2023	1'	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	73.2
BH01A	03/20/2023	5'	<0.0398	<0.0797	<50.0	<50.0	<50.0	<50.0	<50.0	83.9
BH02	03/20/2023	1'	0.108	20.6	782	3010	<249	**3,792**	**3,790**	**948**
BH02A	03/20/2023	5'	<0.0402	<0.0805	<50.0	<50.0	<50.0	<50.0	<50.0	1,350
BH03	03/20/2023	1'	<0.0403	<0.0806	<50.0	54.3	<50.0	54	54.3	180
BH03A	03/20/2023	5'	<0.0398	<0.0797	<49.9	260	<49.9	260	260	372
BH04	03/20/2023	1'	<0.0398	<0.0795	<49.9	<49.9	<49.9	<49.9	<49.9	49.4
BH04A	03/20/2023	5'	<0.0399	<0.0798	<49.8	<49.8	<49.8	<49.8	<49.8	89.2
BH05	03/20/2023	1'	<0.100	15.2	1030	7680	<498	**8,710**	**8,710**	**626**
BH05A	03/20/2023	5'	<0.0398	0.117	<50.0	255	<50.0	255	255	1,950

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 1 Closure Criteria or reclamation standard where applicable.*

Grey text represents samples that have been excavated

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APPENDIX A

Referenced Well Records

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 of measurement	? Water-level approval status
1954-04-02		D	62610		3454.12	NGVD29	1	Z			A
1954-04-02		D	62611		3455.23	NAVD88	1	Z			A
1954-04-02		D	72019	78.77			1	Z			A
1961-02-28		D	62610		3453.28	NGVD29	1	Z			A
1961-02-28		D	62611		3454.39	NAVD88	1	Z			A
1961-02-28		D	72019	79.61			1	Z			A
1966-03-08		D	62610		3446.84	NGVD29	1	Z			A
1966-03-08		D	62611		3447.95	NAVD88	1	Z			A
1966-03-08		D	72019	86.05			1	Z			A
1968-04-08		D	62610		3451.86	NGVD29	1	Z			A
1968-04-08		D	62611		3452.97	NAVD88	1	Z			A
1968-04-08		D	72019	81.03			1	Z			A
1971-01-28		D	62610		3451.34	NGVD29	1	Z			A
1971-01-28		D	62611		3452.45	NAVD88	1	Z			A
1971-01-28		D	72019	81.55			1	Z			A
1976-01-29		D	62610		3450.16	NGVD29	1	Z			A
1976-01-29		D	62611		3451.27	NAVD88	1	Z			A
1976-01-29		D	72019	82.73			1	Z			A

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.

Section	Code	Description
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions or Comments
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

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: 2023-08-07 11:32:11 EDT
0.29 0.26 nadww01

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DII DEC 21 2022 PM3:14

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
L-15414-POD1		L-15414

WELL OWNER NAME(S)	PHONE (OPTIONAL)
MAVRICK NATURAL RESOURCES	928-241-1862

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
1410 NW COUNTY RD	HOBBS	NM	88240

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	33	23.46	N
	LONGITUDE	-103	10	41.55	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

SEMU BURGER B 108

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1184	RUSSELL SOUTHERLAND	WEST TEXAS WATER WELL SERVICE

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/10/2022	11/10/2022	103		

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
			NO CASING IN HOLE				

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

FOR OSE INTERNAL USE

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

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1		CALICHIE PAD	Y ✔ N	
1	20		DAMP SAND	Y ✔ N	
20	25		SANDY CALICHIE	Y ✔ N	
25	40		TAN, WHITE SAND	Y ✔ N	
40	60		SAND, SANDSTONE STREAKS	Y ✔ N	
60	103		RED SAND	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

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METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☑ OTHER – SPECIFY: DRY HOLE

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION:

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

RUSSELL SOUTHERLAND

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Russell Southerland — RUSSELL SOUTHERLAND — 11/10/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: L-15414-POD1

Well owner: MAVERICK NATURAL RESOURCES Phone No.: 928-241-1862

Mailing address: 1410 NW COUNTY RD

City: HOBBS State: NEW MEXICO Zip code: 88240

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: WEST TEXAS WATER WELL SERVICE

2) New Mexico Well Driller License No.: WD# 1184 Expiration Date: 10/31/2023

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): RUSSELL SOUTHERLAND

4) Date well plugging began: _____ Date well plugging concluded: _____

5) GPS Well Location: Latitude: 32 deg, 33 min, 23.46 sec
Longitude: -103 deg, 10 min, 41.55 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 103 ft below ground level (bgl), by the following manner: _____

7) Static water level measured at initiation of plugging: >100 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 11/16/2022

9) Were all plugging activities consistent with an approved plugging plan? YES If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

OSE DII DEC 21 2022 PM3:14

Version: September 8, 2009
Page 1 of 2

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
					DRILL CUTTINGS WILL BE USED TO TEN FEET BELOW GROUND SERVICE AND PLUGGED USING HYDRATED BENTONITE

OSE DII DEC 21 2022 PM3:14

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, RUSSELL SOUTHERLAND, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller Date

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APPENDIX B

Photographic Log

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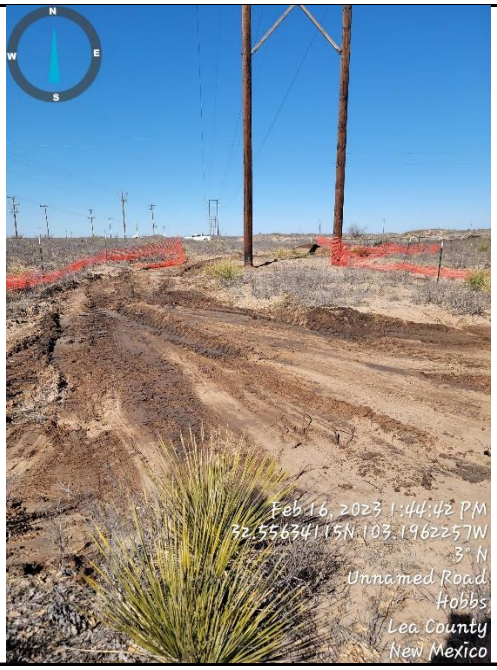
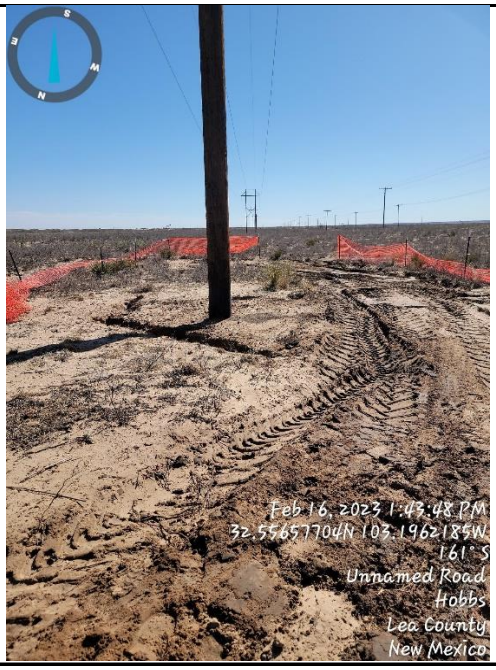
Photographic Log
Maverick Permian, LLC
SEMU Permian #37
Incident Number: NAPP2305453661



Photograph 1 Date: 2/16/2023
Description: Release area
View: North



Photograph 2 Date: 2/16/2023
Description: Release area
View: South

Photograph 3 Date: 3/20/2023
Description: Approximate location of BH02 and BH03
View: North

Photograph 4 Date: 3/20/2023
Description: Release area
View: East

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APPENDIX C

Lithologic Soil Sampling Logs

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	Sample Name: BH01	Date: 03/20/23
	Site Name: SEMU Permian 37	
	Incident Number: nAPP2305453661	
	Job Number: 03D2057074	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 32.556613, -103.196176	Hole Diameter:~4"	Total Depth:5 ft bgs

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
N	<173	1.8	N	BH01A	1	1	SP	SP, poorly graded sand, fine, yellow color, no stain, no odor
N	<173	0.8	N	BH01B	2	2	SP	SAA
N	<173	0.7	N	BH01C	3	3	SP	SAA
N	<173	0.8	N	BH01D	4	4	SP	SAA
N	<173	0.3	N	BH01E	5	5	SP	SAA
								TD at 5 ft bgs

ENSOLUM

	Sample Name: BH02	Date: 03/20/23
	Site Name: SEMU Permian 37	
	Incident Number: nAPP2305453661	
	Job Number: 03D2057074	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 32.556462, -103.196243	Hole Diameter:~4"	Total Depth:5 ft bgs

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
N	1,325	1,057	Y	BH02A	1	1	SP	SP, heavily stained fine sand, heavy odor, poorly graded
N	1,508	1,034	Y	BH02B	2	2	SP	SAA
N	1,478	1,049	Y	BH02C	3	3	SP	SAA
N	1,928	927	Y	BH02D	4	4	SP	SAA
N	1,816	92.1	Y	BH02E	5	5	SP	SAA, less stain, yellow color
								TD at 5 ft bgs

ENSOLUM

	Sample Name: BH03	Date: 03/20/23
	Site Name: SEMU Permian 37	
	Incident Number: nAPP2305453661	
	Job Number: 03D2057074	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 32.556561, -103.196234	Hole Diameter:~4"	Total Depth:5 ft bgs

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
N	<173	33.5	Y	BH03A	1	1	SP	Poorly graded fine sand, lightly stained, some odor, light brown
N	173	247.0	Y	BH03B	2	2	SP	SAA
N	<173	118.7	Y	BH03C	3	3	SP	SAA
N	<173	15.7	Y	BH03D	4	4	SP	SAA
N	<173	21.2	Y	BH03E	5	5	SP	SAA
								TD at 5 ft bgs

ENSOLUM

	Sample Name: BH04	Date: 03/20/23
	Site Name: SEMU Permian 37	
	Incident Number: nAPP2305453661	
	Job Number: 03D2057074	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 32.556548, -103.196149	Hole Diameter:~4"	Total Depth:5 ft bgs

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
N	<173	3.7	N	BH04	1	1	SP	Poorly graded fine sand, lightly brown color, no stain, little odor
N	<173	2.4	N	BH04	2	2	SP	SAA
N	<173	4.0	N	BH04	3	3	SP	SAA
N	<173	6.4	N	BH04	4	4	SP	SAA
N	<173	1.1	N	BH04	5	5	SP	SAA
								TD at 5 ft bgs

ENSOLUM

	Sample Name: BH05	Date: 03/20/23
	Site Name: SEMU Permian 37	
	Incident Number: nAPP2305453661	
	Job Number: 03D2057074	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 32.556406, -103.196215	Hole Diameter:~4"	Total Depth:5 ft bgs

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
N	202	627.3	Y	BH05	1	1	SP	Poorly graded fine sand, heavily stained, heavy odor
N	416	574.7	Y	BH05	2	2	SP	SAA
N	398	431.2	Y	BH05	3	3	SP	SAA
N	576	178.4	Y	BH05	4	4	SP	SAA
N	576	62.1	Y	BH05	5	5	SP	SAA
								TD at 5 ft bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/24/2023 2:03:25 PM

JOB DESCRIPTION

SEMU Permian 37
SDG NUMBER 03D2057074

JOB NUMBER

890-4122-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

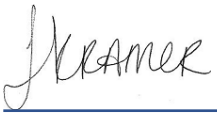
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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2/24/2023 2:03:25 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: SEMU Permian 37

Laboratory Job ID: 890-4122-1
SDG: 03D2057074

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Job ID: 890-4122-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4122-1

Receipt
The samples were received on 2/17/2023 8:18 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4122-1), SS02 (890-4122-2) and SS03 (890-4122-3).

GC VOA
Method 8021B: The following sample was diluted due to the nature of the sample matrix: SS02 (890-4122-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-4122-1), SS02 (890-4122-2) and SS03 (890-4122-3). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Client Sample ID: SS01

Lab Sample ID: 890-4122-1
Matrix: Solid
Date Collected: 02/16/23 14:00
Date Received: 02/17/23 08:18
Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.262		0.201		mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Toluene	2.40		0.201		mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Ethylbenzene	4.54		0.201		mg/Kg		02/23/23 09:25	02/24/23 02:10	100
m-Xylene & p-Xylene	15.9		0.402		mg/Kg		02/23/23 09:25	02/24/23 02:10	100
o-Xylene	9.96		0.201		mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Xylenes, Total	25.9		0.402		mg/Kg		02/23/23 09:25	02/24/23 02:10	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*70 - 130*	*02/23/23 09:25*	*02/24/23 02:10*	*100*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*02/23/23 09:25*	*02/24/23 02:10*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	33.1		0.402		mg/Kg			02/24/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	20000		997		mg/Kg			02/23/23 11:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	2480		997		mg/Kg		02/22/23 16:36	02/23/23 05:15	20
Diesel Range Organics (Over C10-C28)	17500		997		mg/Kg		02/22/23 16:36	02/23/23 05:15	20
OII Range Organics (Over C28-C36)	<997	U	997		mg/Kg		02/22/23 16:36	02/23/23 05:15	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*396*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:15*	*20*
o-Terphenyl	*542*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:15*	*20*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	571		4.96		mg/Kg			02/21/23 18:03	1

Client Sample ID: SS02

Lab Sample ID: 890-4122-2
Matrix: Solid
Date Collected: 02/16/23 14:05
Date Received: 02/17/23 08:18
Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.198	U	0.198		mg/Kg		02/23/23 09:25	02/24/23 02:31	100
Toluene	4.86		0.198		mg/Kg		02/23/23 09:25	02/24/23 02:31	100
Ethylbenzene	5.59		0.198		mg/Kg		02/23/23 09:25	02/24/23 02:31	100
m-Xylene & p-Xylene	24.8		0.396		mg/Kg		02/23/23 09:25	02/24/23 02:31	100
o-Xylene	11.7		0.198		mg/Kg		02/23/23 09:25	02/24/23 02:31	100
Xylenes, Total	36.5		0.396		mg/Kg		02/23/23 09:25	02/24/23 02:31	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*200*	*S1+*	*70 - 130*	*02/23/23 09:25*	*02/24/23 02:31*	*100*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Client Sample ID: SS02

Lab Sample ID: 890-4122-2
Matrix: Solid
Date Collected: 02/16/23 14:05
Date Received: 02/17/23 08:18
Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*02/23/23 09:25*	*02/24/23 02:31*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**47.0**		0.396		mg/Kg			02/24/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**14800**		999		mg/Kg			02/23/23 11:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**2600**		999		mg/Kg		02/22/23 16:36	02/23/23 05:36	20
Diesel Range Organics (Over C10-C28)	**12200**		999		mg/Kg		02/22/23 16:36	02/23/23 05:36	20
Oil Range Organics (Over C28-C36)	<999	U	999		mg/Kg		02/22/23 16:36	02/23/23 05:36	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*282*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:36*	*20*
o-Terphenyl	*395*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:36*	*20*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**688**		4.98		mg/Kg			02/21/23 18:09	1

Client Sample ID: SS03

Lab Sample ID: 890-4122-3
Matrix: Solid
Date Collected: 02/16/23 14:10
Date Received: 02/17/23 08:18
Sample Depth: 0.5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.524**		0.200		mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Toluene	**19.7**		0.200		mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Ethylbenzene	**22.1**		0.200		mg/Kg		02/23/23 09:25	02/24/23 02:51	100
m-Xylene & p-Xylene	**43.8**		0.399		mg/Kg		02/23/23 09:25	02/24/23 02:51	100
o-Xylene	**23.8**		0.200		mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Xylenes, Total	**67.6**		0.399		mg/Kg		02/23/23 09:25	02/24/23 02:51	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*267*	*S1+*	*70 - 130*	*02/23/23 09:25*	*02/24/23 02:51*	*100*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/23/23 09:25*	*02/24/23 02:51*	*100*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**110**		0.399		mg/Kg			02/24/23 14:46	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**15700**		998		mg/Kg			02/23/23 11:59	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Client Sample ID: SS03

Date Collected: 02/16/23 14:10
Date Received: 02/17/23 08:18
Sample Depth: 0.5

Lab Sample ID: 890-4122-3

Matrix: Solid

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	3800		998		mg/Kg		02/22/23 16:36	02/23/23 05:58	20
Diesel Range Organics (Over C10-C28)	11900		998		mg/Kg		02/22/23 16:36	02/23/23 05:58	20
Oil Range Organics (Over C28-C36)	<998	U	998		mg/Kg		02/22/23 16:36	02/23/23 05:58	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*309*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:58*	*20*
o-Terphenyl	*398*	*S1+*	*70 - 130*	*02/22/23 16:36*	*02/23/23 05:58*	*20*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	702		4.99		mg/Kg			02/21/23 18:15	1

Surrogate Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-24920-A-1-D MS	Matrix Spike	118	105
880-24920-A-1-E MSD	Matrix Spike Duplicate	115	96
890-4122-1	SS01	179 S1+	98
890-4122-2	SS02	200 S1+	99
890-4122-3	SS03	267 S1+	102
LCS 880-47007/1-A	Lab Control Sample	122	100
LCSD 880-47007/2-A	Lab Control Sample Dup	110	104
MB 880-47001/5-A	Method Blank	76	87
MB 880-47007/5-A	Method Blank	78	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4122-1	SS01	396 S1+	542 S1+
890-4122-2	SS02	282 S1+	395 S1+
890-4122-3	SS03	309 S1+	398 S1+
890-4153-A-1-G MS	Matrix Spike	117	104
890-4153-A-1-H MSD	Matrix Spike Duplicate	98	89
LCS 880-46977/2-A	Lab Control Sample	98	88
LCSD 880-46977/3-A	Lab Control Sample Dup	100	91
MB 880-46977/1-A	Method Blank	126	127

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47001/5-A
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47001

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/23/23 08:38	02/23/23 11:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/23/23 08:38	02/23/23 11:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/23/23 08:38	02/23/23 11:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/23/23 08:38	02/23/23 11:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/23/23 08:38	02/23/23 11:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/23/23 08:38	02/23/23 11:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/23/23 08:38*	*02/23/23 11:47*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*02/23/23 08:38*	*02/23/23 11:47*	*1*

Lab Sample ID: MB 880-47007/5-A
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47007

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/23/23 09:25	02/23/23 23:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/23/23 09:25	02/23/23 23:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/23/23 09:25	02/23/23 23:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/23/23 09:25	02/23/23 23:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/23/23 09:25	02/23/23 23:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/23/23 09:25	02/23/23 23:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*02/23/23 09:25*	*02/23/23 23:25*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*02/23/23 09:25*	*02/23/23 23:25*	*1*

Lab Sample ID: LCS 880-47007/1-A
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47007

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09393		mg/Kg		94	70 - 130		
Toluene			0.100	0.09350		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.1024		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2149		mg/Kg		107	70 - 130		
o-Xylene			0.100	0.1176		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-47007/2-A
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47007

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08161		mg/Kg		82	70 - 130	14	35

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-47007/2-A
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47007

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08564		mg/Kg		86	70 - 130	9	35
Ethylbenzene			0.100	0.09059		mg/Kg		91	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.1900		mg/Kg		95	70 - 130	12	35
o-Xylene			0.100	0.09988		mg/Kg		100	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-24920-A-1-D MS
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47007

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.09590		mg/Kg		96	70 - 130
Toluene	<0.00200	U	0.100	0.09571		mg/Kg		94	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.1007		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2081		mg/Kg		102	70 - 130
o-Xylene	<0.00200	U	0.100	0.1062		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-24920-A-1-E MSD
Matrix: Solid
Analysis Batch: 47000

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 47007

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.08695		mg/Kg		88	70 - 130	10	35
Toluene	<0.00200	U	0.0990	0.08891		mg/Kg		89	70 - 130	7	35
Ethylbenzene	<0.00200	U	0.0990	0.09431		mg/Kg		94	70 - 130	7	35
m-Xylene & p-Xylene	<0.00399	U	0.198	0.1968		mg/Kg		98	70 - 130	6	35
o-Xylene	<0.00200	U	0.0990	0.09940		mg/Kg		99	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-46977/1-A
Matrix: Solid
Analysis Batch: 46917

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46977

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/22/23 16:36	02/22/23 21:03	1

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-46977/1-A
Matrix: Solid
Analysis Batch: 46917

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 46977

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/22/23 16:36	02/22/23 21:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/22/23 16:36	02/22/23 21:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*02/22/23 16:36*	*02/22/23 21:03*	*1*
o-Terphenyl	*127*		*70 - 130*	*02/22/23 16:36*	*02/22/23 21:03*	*1*

Lab Sample ID: LCS 880-46977/2-A
Matrix: Solid
Analysis Batch: 46917

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 46977

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	832.8		mg/Kg		83	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	815.4		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Lab Sample ID: LCSD 880-46977/3-A
Matrix: Solid
Analysis Batch: 46917

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 46977

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	878.3		mg/Kg		88	70 - 130	5	20
Diesel Range Organics (Over C10-C28)			1000	830.0		mg/Kg		83	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-4153-A-1-G MS
Matrix: Solid
Analysis Batch: 46917

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 46977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	860.3		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)	59.4		998	1043		mg/Kg		99	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4153-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 46917 — **Prep Batch: 46977**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	988.5		mg/Kg		97	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	59.4		997	883.4		mg/Kg		83	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46828/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 46871

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/21/23 15:17	1

Lab Sample ID: LCS 880-46828/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 46871

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	236.5		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-46828/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 46871

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	243.9		mg/Kg		98	90 - 110	3	20

Lab Sample ID: 890-4120-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 46871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<4.97	U	249	240.7		mg/Kg		95	90 - 110		

Lab Sample ID: 890-4120-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 46871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<4.97	U	249	240.4		mg/Kg		95	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

GC VOA

Analysis Batch: 47000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	8021B	47007
890-4122-2	SS02	Total/NA	Solid	8021B	47007
890-4122-3	SS03	Total/NA	Solid	8021B	47007
MB 880-47001/5-A	Method Blank	Total/NA	Solid	8021B	47001
MB 880-47007/5-A	Method Blank	Total/NA	Solid	8021B	47007
LCS 880-47007/1-A	Lab Control Sample	Total/NA	Solid	8021B	47007
LCSD 880-47007/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47007
880-24920-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	47007
880-24920-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47007

Prep Batch: 47001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47001/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 47007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	5035	
890-4122-2	SS02	Total/NA	Solid	5035	
890-4122-3	SS03	Total/NA	Solid	5035	
MB 880-47007/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47007/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47007/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24920-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-24920-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	Total BTEX	
890-4122-2	SS02	Total/NA	Solid	Total BTEX	
890-4122-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 46917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	8015B NM	46977
890-4122-2	SS02	Total/NA	Solid	8015B NM	46977
890-4122-3	SS03	Total/NA	Solid	8015B NM	46977
MB 880-46977/1-A	Method Blank	Total/NA	Solid	8015B NM	46977
LCS 880-46977/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	46977
LCSD 880-46977/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	46977
890-4153-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	46977
890-4153-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	46977

Prep Batch: 46977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	8015NM Prep	
890-4122-2	SS02	Total/NA	Solid	8015NM Prep	
890-4122-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-46977/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-46977/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

GC Semi VOA (Continued)

Prep Batch: 46977 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-46977/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4153-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4153-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Total/NA	Solid	8015 NM	
890-4122-2	SS02	Total/NA	Solid	8015 NM	
890-4122-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Soluble	Solid	DI Leach	
890-4122-2	SS02	Soluble	Solid	DI Leach	
890-4122-3	SS03	Soluble	Solid	DI Leach	
MB 880-46828/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46828/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46828/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4120-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4120-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 46871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4122-1	SS01	Soluble	Solid	300.0	46828
890-4122-2	SS02	Soluble	Solid	300.0	46828
890-4122-3	SS03	Soluble	Solid	300.0	46828
MB 880-46828/1-A	Method Blank	Soluble	Solid	300.0	46828
LCS 880-46828/2-A	Lab Control Sample	Soluble	Solid	300.0	46828
LCSD 880-46828/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46828
890-4120-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	46828
890-4120-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46828

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Client Sample ID: SS01

Lab Sample ID: 890-4122-1

Date Collected: 02/16/23 14:00
Matrix: Solid
Date Received: 02/17/23 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	47007	02/23/23 09:25	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	47000	02/24/23 02:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47193	02/24/23 14:46	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47032	02/23/23 11:59	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	46977	02/22/23 16:36	AJ	EET MID
Total/NA	Analysis	8015B NM		20	1 uL	1 uL	46917	02/23/23 05:15	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46828	02/21/23 09:25	KS	EET MID
Soluble	Analysis	300.0		1			46871	02/21/23 18:03	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-4122-2

Date Collected: 02/16/23 14:05
Matrix: Solid
Date Received: 02/17/23 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	47007	02/23/23 09:25	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	47000	02/24/23 02:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47193	02/24/23 14:46	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47032	02/23/23 11:59	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	46977	02/22/23 16:36	AJ	EET MID
Total/NA	Analysis	8015B NM		20	1 uL	1 uL	46917	02/23/23 05:36	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46828	02/21/23 09:25	KS	EET MID
Soluble	Analysis	300.0		1			46871	02/21/23 18:09	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-4122-3

Date Collected: 02/16/23 14:10
Matrix: Solid
Date Received: 02/17/23 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	47007	02/23/23 09:25	MNR	EET MID
Total/NA	Analysis	8021B		100	5 mL	5 mL	47000	02/24/23 02:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47193	02/24/23 14:46	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47032	02/23/23 11:59	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	46977	02/22/23 16:36	AJ	EET MID
Total/NA	Analysis	8015B NM		20	1 uL	1 uL	46917	02/23/23 05:58	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	46828	02/21/23 09:25	KS	EET MID
Soluble	Analysis	300.0		1			46871	02/21/23 18:15	CH	EET MID

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: SEMU Permian 37

Job ID: 890-4122-1
SDG: 03D2057074

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4122-1	SS01	Solid	02/16/23 14:00	02/17/23 08:18	0.5
890-4122-2	SS02	Solid	02/16/23 14:05	02/17/23 08:18	0.5
890-4122-3	SS03	Solid	02/16/23 14:10	02/17/23 08:18	0.5

1 2 3 4 5 6 7 8 9 10 11 12 13 14

2/24/2023

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: ______

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Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	3122 Nat'l Parks Highway	Address:	3122 Nat'l Parks Highway
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-517-8437	Email:	jadams@ensolum.com, kjennings@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project: NM
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	SEMU PERMIAN
Project Number:	03D2057074
Project Location:	32.5566346, -103.19606
Sampler's Name:	Julianna Falcomata
PO #:	

Turn Around: ☑ Routine ☐ Rush
Due Date:
TAT starts the day received by the lab, if received by 4:30pm

Pres. Code

ANALYSIS REQUEST

890-4122 Chain of Custody

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TWM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.4
Total Containers:		Corrected Temperature:	2.2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	BTEX	TPH	CHLORIDES	Sample Comments
SS01	S	2-16-23	1400	.5'	C	1	✓	✓	✓	
SS02	S	2-16-23	1405	.5'	C	1	✓	✓	✓	
SS03	S	2-16-23	1410	.5'	C	1	✓	✓	✓	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	[signature]	[signature]	2/17/23 0750	2	[signature]	[signature]	2.17.23 818
3				4			
5				6			

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4122-1
SDG Number: 03D2057074

Login Number: 4122
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4122-1
SDG Number: 03D2057074

Login Number: 4122
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 02/21/23 08:18 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 4/3/2023 3:08:47 PM

JOB DESCRIPTION

SEMU Permian 37 (Maverick)
SDG NUMBER Lea County NM

JOB NUMBER

890-4371-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

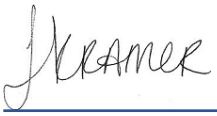
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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4/3/2023 3:08:47 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Laboratory Job ID: 890-4371-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4371-1
Project/Site: SEMU Permian 37 (Maverick) SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Job ID: 890-4371-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4371-1

Receipt
The samples were received on 3/21/2023 8:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-4371-1), BH01A (890-4371-2), BH02 (890-4371-3), BH02A (890-4371-4), BH03 (890-4371-5), BH03A (890-4371-6), BH04 (890-4371-7), BH04A (890-4371-8), BH05 (890-4371-9) and BH05A (890-4371-10).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: BH02 (890-4371-3), BH02A (890-4371-4), BH05 (890-4371-9) and BH05A (890-4371-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The following samples were diluted due to the nature of the sample matrix: BH01A (890-4371-2), BH02A (890-4371-4), BH03 (890-4371-5), BH03A (890-4371-6), BH04 (890-4371-7), BH04A (890-4371-8) and BH05A (890-4371-10). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH01 (890-4371-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: BH05 (890-4371-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-49652 and analytical batch 880-49691 was outside control limits. Sample non-homogeneity is suspected.

Method 8015MOD_NM: The method blank for preparation batch 880-49652 and analytical batch 880-49691 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH01

Date Collected: 03/20/23 13:20
Date Received: 03/21/23 08:15
Sample Depth: 1'

Lab Sample ID: 890-4371-1
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		03/27/23 16:06	03/31/23 22:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/27/23 16:06	03/31/23 22:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/27/23 16:06	03/31/23 22:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/27/23 16:06	03/31/23 22:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/27/23 16:06	03/31/23 22:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/27/23 16:06	03/31/23 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*03/27/23 16:06*	*03/31/23 22:20*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*03/27/23 16:06*	*03/31/23 22:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	49.9		mg/Kg		03/27/23 14:32	03/28/23 22:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/27/23 14:32	03/28/23 22:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/27/23 14:32	03/28/23 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*0.2*	*S1-*	*70 - 130*	*03/27/23 14:32*	*03/28/23 22:47*	*1*
o-Terphenyl	*0.07*	*S1-*	*70 - 130*	*03/27/23 14:32*	*03/28/23 22:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**73.2**		5.05		mg/Kg			03/31/23 00:06	1

Client Sample ID: BH01A

Date Collected: 03/20/23 13:40
Date Received: 03/21/23 08:15
Sample Depth: 5'

Lab Sample ID: 890-4371-2
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Toluene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	03/31/23 22:40	20
m-Xylene & p-Xylene	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	03/31/23 22:40	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Xylenes, Total	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	03/31/23 22:40	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*03/27/23 16:06*	*03/31/23 22:40*	*20*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH01A

Lab Sample ID: 890-4371-2
Matrix: Solid
Date Collected: 03/20/23 13:40
Date Received: 03/21/23 08:15
Sample Depth: 5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*03/27/23 16:06*	*03/31/23 22:40*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0797	U	0.0797	mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*81*		*70 - 130*	*03/27/23 14:32*	*03/28/23 23:52*	*1*
o-Terphenyl	*77*		*70 - 130*	*03/27/23 14:32*	*03/28/23 23:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**83.9**		5.02	mg/Kg			03/31/23 00:11	1

Client Sample ID: BH02

Lab Sample ID: 890-4371-3
Matrix: Solid
Date Collected: 03/20/23 14:00
Date Received: 03/21/23 08:15
Sample Depth: 1'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.108**		0.0994	mg/Kg		03/27/23 16:06	03/31/23 23:01	50
Toluene	**0.490**		0.0994	mg/Kg		03/27/23 16:06	03/31/23 23:01	50
Ethylbenzene	**1.83**		0.0994	mg/Kg		03/27/23 16:06	03/31/23 23:01	50
m-Xylene & p-Xylene	**10.1**		0.199	mg/Kg		03/27/23 16:06	03/31/23 23:01	50
o-Xylene	**8.05**		0.0994	mg/Kg		03/27/23 16:06	03/31/23 23:01	50
Xylenes, Total	**18.2**		0.199	mg/Kg		03/27/23 16:06	03/31/23 23:01	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*273*	*S1+*	*70 - 130*	*03/27/23 16:06*	*03/31/23 23:01*	*50*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*03/27/23 16:06*	*03/31/23 23:01*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**20.6**		0.199	mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3790**		249	mg/Kg			03/29/23 12:10	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH02

Lab Sample ID: 890-4371-3
Matrix: Solid
Date Collected: 03/20/23 14:00
Date Received: 03/21/23 08:15
Sample Depth: 1'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	782		249		mg/Kg		03/27/23 14:32	03/29/23 04:54	5
Diesel Range Organics (Over C10-C28)	3010		249		mg/Kg		03/27/23 14:32	03/29/23 04:54	5
Oil Range Organics (Over C28-C36)	<249	U	249		mg/Kg		03/27/23 14:32	03/29/23 04:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/27/23 14:32*	*03/29/23 04:54*	*5*
o-Terphenyl	*100*		*70 - 130*	*03/27/23 14:32*	*03/29/23 04:54*	*5*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	948		4.98		mg/Kg			03/31/23 00:25	1

Client Sample ID: BH02A

Lab Sample ID: 890-4371-4
Matrix: Solid
Date Collected: 03/20/23 14:20
Date Received: 03/21/23 08:15
Sample Depth: 5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0402	U	0.0402		mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Toluene	<0.0402	U	0.0402		mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Ethylbenzene	<0.0402	U	0.0402		mg/Kg		03/27/23 16:06	03/31/23 23:21	20
m-Xylene & p-Xylene	<0.0805	U	0.0805		mg/Kg		03/27/23 16:06	03/31/23 23:21	20
o-Xylene	<0.0402	U	0.0402		mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Xylenes, Total	<0.0805	U	0.0805		mg/Kg		03/27/23 16:06	03/31/23 23:21	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*03/27/23 16:06*	*03/31/23 23:21*	*20*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*03/27/23 16:06*	*03/31/23 23:21*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0805	U	0.0805		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 06:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 06:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 06:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:44*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:44*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH02A

Lab Sample ID: 890-4371-4
Matrix: Solid
Date Collected: 03/20/23 14:20
Date Received: 03/21/23 08:15
Sample Depth: 5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1350**		4.97		mg/Kg			03/31/23 00:30	1

Client Sample ID: BH03

Lab Sample ID: 890-4371-5
Matrix: Solid
Date Collected: 03/20/23 14:40
Date Received: 03/21/23 08:15
Sample Depth: 1'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0403	U	0.0403		mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Toluene	<0.0403	U	0.0403		mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Ethylbenzene	<0.0403	U	0.0403		mg/Kg		03/27/23 16:06	03/31/23 23:41	20
m-Xylene & p-Xylene	<0.0806	U	0.0806		mg/Kg		03/27/23 16:06	03/31/23 23:41	20
o-Xylene	<0.0403	U	0.0403		mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Xylenes, Total	<0.0806	U	0.0806		mg/Kg		03/27/23 16:06	03/31/23 23:41	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*03/27/23 16:06*	*03/31/23 23:41*	*20*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/27/23 16:06*	*03/31/23 23:41*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0806	U	0.0806		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**54.3**		50.0		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 06:21	1
Diesel Range Organics (Over C10-C28)	**54.3**		50.0		mg/Kg		03/27/23 14:32	03/29/23 06:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 06:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:21*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**180**		4.99		mg/Kg			03/31/23 00:35	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH03A

Lab Sample ID: 890-4371-6
Matrix: Solid
Date Collected: 03/20/23 15:00
Date Received: 03/21/23 08:15
Sample Depth: 5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Toluene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:02	20
m-Xylene & p-Xylene	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	04/01/23 00:02	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Xylenes, Total	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	04/01/23 00:02	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:02*	*20*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:02*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0797	U	0.0797		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**260**		49.9		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/27/23 14:32	03/29/23 06:00	1
Diesel Range Organics (Over C10-C28)	**260**		49.9		mg/Kg		03/27/23 14:32	03/29/23 06:00	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/27/23 14:32	03/29/23 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:00*	*1*
o-Terphenyl	*101*		*70 - 130*	*03/27/23 14:32*	*03/29/23 06:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**372**		5.00		mg/Kg			03/31/23 00:40	1

Client Sample ID: BH04

Lab Sample ID: 890-4371-7
Matrix: Solid
Date Collected: 03/20/23 15:20
Date Received: 03/21/23 08:15
Sample Depth: 1'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Toluene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:22	20
m-Xylene & p-Xylene	<0.0795	U	0.0795		mg/Kg		03/27/23 16:06	04/01/23 00:22	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Xylenes, Total	<0.0795	U	0.0795		mg/Kg		03/27/23 16:06	04/01/23 00:22	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:22*	*20*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH04

Date Collected: 03/20/23 15:20
Date Received: 03/21/23 08:15
Sample Depth: 1'

Lab Sample ID: 890-4371-7
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:22*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0795	U	0.0795	mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*03/27/23 14:32*	*03/29/23 00:14*	*1*
o-Terphenyl	*83*		*70 - 130*	*03/27/23 14:32*	*03/29/23 00:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**49.4**		4.95	mg/Kg			03/31/23 00:44	1

Client Sample ID: BH04A

Date Collected: 03/20/23 15:40
Date Received: 03/21/23 08:15
Sample Depth: 5'

Lab Sample ID: 890-4371-8
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Toluene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Ethylbenzene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
m-Xylene & p-Xylene	<0.0798	U	0.0798	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
o-Xylene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Xylenes, Total	<0.0798	U	0.0798	mg/Kg		03/27/23 16:06	04/01/23 00:43	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:43*	*20*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*03/27/23 16:06*	*04/01/23 00:43*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0798	U	0.0798	mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/29/23 12:10	1

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Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH04A

Lab Sample ID: 890-4371-8
Matrix: Solid
Date Collected: 03/20/23 15:40
Date Received: 03/21/23 08:15
Sample Depth: 5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		03/27/23 14:32	03/29/23 00:35	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		03/27/23 14:32	03/29/23 00:35	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		03/27/23 14:32	03/29/23 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/27/23 14:32*	*03/29/23 00:35*	*1*
o-Terphenyl	*92*		*70 - 130*	*03/27/23 14:32*	*03/29/23 00:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**89.2**		4.98		mg/Kg			03/31/23 20:05	1

Client Sample ID: BH05

Lab Sample ID: 890-4371-9
Matrix: Solid
Date Collected: 03/20/23 16:00
Date Received: 03/21/23 08:15
Sample Depth: 1'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100		mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Toluene	**0.150**		0.100		mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Ethylbenzene	**1.76**		0.100		mg/Kg		03/27/23 16:06	04/01/23 01:03	50
m-Xylene & p-Xylene	**3.18**		0.200		mg/Kg		03/27/23 16:06	04/01/23 01:03	50
o-Xylene	**10.1**		0.100		mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Xylenes, Total	**13.3**		0.200		mg/Kg		03/27/23 16:06	04/01/23 01:03	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*280*	*S1+*	*70 - 130*	*03/27/23 16:06*	*04/01/23 01:03*	*50*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*03/27/23 16:06*	*04/01/23 01:03*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**15.2**		0.200		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**8710**		498		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**1030**		498		mg/Kg		03/27/23 14:32	03/29/23 05:16	10
Diesel Range Organics (Over C10-C28)	**7680**		498		mg/Kg		03/27/23 14:32	03/29/23 05:16	10
OII Range Organics (Over C28-C36)	<498	U	498		mg/Kg		03/27/23 14:32	03/29/23 05:16	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*162*	*S1+*	*70 - 130*	*03/27/23 14:32*	*03/29/23 05:16*	*10*
o-Terphenyl	*241*	*S1+*	*70 - 130*	*03/27/23 14:32*	*03/29/23 05:16*	*10*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH05

Date Collected: 03/20/23 16:00
Date Received: 03/21/23 08:15
Sample Depth: 1'

Lab Sample ID: 890-4371-9
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**626**		5.03		mg/Kg			03/31/23 20:19	1

Client Sample ID: BH05A

Date Collected: 03/20/23 16:20
Date Received: 03/21/23 08:15
Sample Depth: 5'

Lab Sample ID: 890-4371-10
Matrix: Solid

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Toluene	**0.117**		0.0398		mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Ethylbenzene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 01:24	20
m-Xylene & p-Xylene	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	04/01/23 01:24	20
o-Xylene	<0.0398	U	0.0398		mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Xylenes, Total	<0.0797	U	0.0797		mg/Kg		03/27/23 16:06	04/01/23 01:24	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*03/27/23 16:06*	*04/01/23 01:24*	*20*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*03/27/23 16:06*	*04/01/23 01:24*	*20*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.117**		0.0797		mg/Kg			04/03/23 15:53	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**255**		50.0		mg/Kg			03/29/23 12:10	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 05:38	1
Diesel Range Organics (Over C10-C28)	**255**		50.0		mg/Kg		03/27/23 14:32	03/29/23 05:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/29/23 05:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/27/23 14:32*	*03/29/23 05:38*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/27/23 14:32*	*03/29/23 05:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1950**		25.1		mg/Kg			03/31/23 20:24	5

Surrogate Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4371-1	BH01	106	87
890-4371-1 MS	BH01	125	109
890-4371-1 MSD	BH01	115	107
890-4371-2	BH01A	81	100
890-4371-3	BH02	273 S1+	92
890-4371-4	BH02A	144 S1+	95
890-4371-5	BH03	110	89
890-4371-6	BH03A	130	72
890-4371-7	BH04	71	98
890-4371-8	BH04A	77	94
890-4371-9	BH05	280 S1+	97
890-4371-10	BH05A	90	108
LCS 880-49657/1-A	Lab Control Sample	116	107
LCSD 880-49657/2-A	Lab Control Sample Dup	120	105
MB 880-49654/5-A	Method Blank	74	81
MB 880-49657/5-A	Method Blank	85	89

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4371-1	BH01	0.2 S1-	0.07 S1-
890-4371-1 MS	BH01	88	80
890-4371-1 MSD	BH01	103	91
890-4371-2	BH01A	81	77
890-4371-3	BH02	99	100
890-4371-4	BH02A	85	86
890-4371-5	BH03	84	86
890-4371-6	BH03A	101	101
890-4371-7	BH04	84	83
890-4371-8	BH04A	99	92
890-4371-9	BH05	162 S1+	241 S1+
890-4371-10	BH05A	99	99
LCS 880-49652/2-A	Lab Control Sample	103	103
LCSD 880-49652/3-A	Lab Control Sample Dup	102	106
MB 880-49652/1-A	Method Blank	124	124

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49654/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49654

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/27/23 15:25	03/31/23 11:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/27/23 15:25	03/31/23 11:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/27/23 15:25	03/31/23 11:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/27/23 15:25	03/31/23 11:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/27/23 15:25	03/31/23 11:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/27/23 15:25	03/31/23 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*03/27/23 15:25*	*03/31/23 11:23*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*03/27/23 15:25*	*03/31/23 11:23*	*1*

Lab Sample ID: MB 880-49657/5-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49657

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/27/23 16:06	03/31/23 21:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/27/23 16:06	03/31/23 21:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/27/23 16:06*	*03/31/23 21:58*	*1*

Lab Sample ID: LCS 880-49657/1-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49657

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09066		mg/Kg		91	70 - 130		
Toluene			0.100	0.09152		mg/Kg		92	70 - 130		
Ethylbenzene			0.100	0.09701		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2066		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1130		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-49657/2-A
Matrix: Solid
Analysis Batch: 49999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49657

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09100		mg/Kg		91	70 - 130	0	35

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-49657/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49999 — **Prep Batch: 49657**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09094		mg/Kg		91	70 - 130	1	35
Ethylbenzene			0.100	0.09972		mg/Kg		100	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2134		mg/Kg		107	70 - 130	3	35
o-Xylene			0.100	0.1143		mg/Kg		114	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-4371-1 MS — **Client Sample ID: BH01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49999 — **Prep Batch: 49657**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.08943		mg/Kg		90	70 - 130
Toluene	<0.00201	U	0.0998	0.09016		mg/Kg		90	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.09631		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2037		mg/Kg		102	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1082		mg/Kg		108	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-4371-1 MSD — **Client Sample ID: BH01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49999 — **Prep Batch: 49657**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.09214		mg/Kg		93	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.08867		mg/Kg		90	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0990	0.09360		mg/Kg		95	70 - 130	3	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1992		mg/Kg		101	70 - 130	2	35
o-Xylene	<0.00201	U	0.0990	0.1055		mg/Kg		107	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-49652/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 49691 — **Prep Batch: 49652**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/28/23 21:43	1

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-49652/1-A
Matrix: Solid
Analysis Batch: 49691

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49652

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/28/23 21:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/27/23 14:32	03/28/23 21:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*03/27/23 14:32*	*03/28/23 21:43*	*1*
o-Terphenyl	*124*		*70 - 130*	*03/27/23 14:32*	*03/28/23 21:43*	*1*

Lab Sample ID: LCS 880-49652/2-A
Matrix: Solid
Analysis Batch: 49691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49652

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	869.0		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	875.2		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: LCSD 880-49652/3-A
Matrix: Solid
Analysis Batch: 49691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49652

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	972.5		mg/Kg		97	70 - 130	11	20
Diesel Range Organics (Over C10-C28)			1000	912.9		mg/Kg		91	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

Lab Sample ID: 890-4371-1 MS
Matrix: Solid
Analysis Batch: 49691

Client Sample ID: BH01
Prep Type: Total/NA
Prep Batch: 49652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	997	862.1		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	895.2		mg/Kg		90	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4371-1 MSD
Matrix: Solid
Analysis Batch: 49691

Client Sample ID: BH01
Prep Type: Total/NA
Prep Batch: 49652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	999	1185	F2	mg/Kg		119	70 - 130	32	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1014		mg/Kg		102	70 - 130	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49884/1-A
Matrix: Solid
Analysis Batch: 50034

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/30/23 22:29	1

Lab Sample ID: LCS 880-49884/2-A
Matrix: Solid
Analysis Batch: 50034

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	261.5		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-49884/3-A
Matrix: Solid
Analysis Batch: 50034

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.8		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-4370-A-24-E MS
Matrix: Solid
Analysis Batch: 50034

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1520		2520	4138		mg/Kg		104	90 - 110		

Lab Sample ID: 890-4370-A-24-F MSD
Matrix: Solid
Analysis Batch: 50034

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1520		2520	4134		mg/Kg		104	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-49876/1-A
Matrix: Solid
Analysis Batch: 50035

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/31/23 19:50	1

Lab Sample ID: LCS 880-49876/2-A
Matrix: Solid
Analysis Batch: 50035

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.8		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-49876/3-A
Matrix: Solid
Analysis Batch: 50035

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	257.2		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-4371-8 MS
Matrix: Solid
Analysis Batch: 50035

Client Sample ID: BH04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	89.2		249	336.9		mg/Kg		99	90 - 110		

Lab Sample ID: 890-4371-8 MSD
Matrix: Solid
Analysis Batch: 50035

Client Sample ID: BH04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	89.2		249	335.4		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

GC VOA

Prep Batch: 49654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49654/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 49657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	5035	
890-4371-2	BH01A	Total/NA	Solid	5035	
890-4371-3	BH02	Total/NA	Solid	5035	
890-4371-4	BH02A	Total/NA	Solid	5035	
890-4371-5	BH03	Total/NA	Solid	5035	
890-4371-6	BH03A	Total/NA	Solid	5035	
890-4371-7	BH04	Total/NA	Solid	5035	
890-4371-8	BH04A	Total/NA	Solid	5035	
890-4371-9	BH05	Total/NA	Solid	5035	
890-4371-10	BH05A	Total/NA	Solid	5035	
MB 880-49657/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49657/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49657/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4371-1 MS	BH01	Total/NA	Solid	5035	
890-4371-1 MSD	BH01	Total/NA	Solid	5035	

Analysis Batch: 49999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	8021B	49657
890-4371-2	BH01A	Total/NA	Solid	8021B	49657
890-4371-3	BH02	Total/NA	Solid	8021B	49657
890-4371-4	BH02A	Total/NA	Solid	8021B	49657
890-4371-5	BH03	Total/NA	Solid	8021B	49657
890-4371-6	BH03A	Total/NA	Solid	8021B	49657
890-4371-7	BH04	Total/NA	Solid	8021B	49657
890-4371-8	BH04A	Total/NA	Solid	8021B	49657
890-4371-9	BH05	Total/NA	Solid	8021B	49657
890-4371-10	BH05A	Total/NA	Solid	8021B	49657
MB 880-49654/5-A	Method Blank	Total/NA	Solid	8021B	49654
MB 880-49657/5-A	Method Blank	Total/NA	Solid	8021B	49657
LCS 880-49657/1-A	Lab Control Sample	Total/NA	Solid	8021B	49657
LCSD 880-49657/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49657
890-4371-1 MS	BH01	Total/NA	Solid	8021B	49657
890-4371-1 MSD	BH01	Total/NA	Solid	8021B	49657

Analysis Batch: 50240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	Total BTEX	
890-4371-2	BH01A	Total/NA	Solid	Total BTEX	
890-4371-3	BH02	Total/NA	Solid	Total BTEX	
890-4371-4	BH02A	Total/NA	Solid	Total BTEX	
890-4371-5	BH03	Total/NA	Solid	Total BTEX	
890-4371-6	BH03A	Total/NA	Solid	Total BTEX	
890-4371-7	BH04	Total/NA	Solid	Total BTEX	
890-4371-8	BH04A	Total/NA	Solid	Total BTEX	
890-4371-9	BH05	Total/NA	Solid	Total BTEX	
890-4371-10	BH05A	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

GC Semi VOA

Prep Batch: 49652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	8015NM Prep	
890-4371-2	BH01A	Total/NA	Solid	8015NM Prep	
890-4371-3	BH02	Total/NA	Solid	8015NM Prep	
890-4371-4	BH02A	Total/NA	Solid	8015NM Prep	
890-4371-5	BH03	Total/NA	Solid	8015NM Prep	
890-4371-6	BH03A	Total/NA	Solid	8015NM Prep	
890-4371-7	BH04	Total/NA	Solid	8015NM Prep	
890-4371-8	BH04A	Total/NA	Solid	8015NM Prep	
890-4371-9	BH05	Total/NA	Solid	8015NM Prep	
890-4371-10	BH05A	Total/NA	Solid	8015NM Prep	
MB 880-49652/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49652/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4371-1 MS	BH01	Total/NA	Solid	8015NM Prep	
890-4371-1 MSD	BH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 49691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	8015B NM	49652
890-4371-2	BH01A	Total/NA	Solid	8015B NM	49652
890-4371-3	BH02	Total/NA	Solid	8015B NM	49652
890-4371-4	BH02A	Total/NA	Solid	8015B NM	49652
890-4371-5	BH03	Total/NA	Solid	8015B NM	49652
890-4371-6	BH03A	Total/NA	Solid	8015B NM	49652
890-4371-7	BH04	Total/NA	Solid	8015B NM	49652
890-4371-8	BH04A	Total/NA	Solid	8015B NM	49652
890-4371-9	BH05	Total/NA	Solid	8015B NM	49652
890-4371-10	BH05A	Total/NA	Solid	8015B NM	49652
MB 880-49652/1-A	Method Blank	Total/NA	Solid	8015B NM	49652
LCS 880-49652/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49652
LCSD 880-49652/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49652
890-4371-1 MS	BH01	Total/NA	Solid	8015B NM	49652
890-4371-1 MSD	BH01	Total/NA	Solid	8015B NM	49652

Analysis Batch: 49831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Total/NA	Solid	8015 NM	
890-4371-2	BH01A	Total/NA	Solid	8015 NM	
890-4371-3	BH02	Total/NA	Solid	8015 NM	
890-4371-4	BH02A	Total/NA	Solid	8015 NM	
890-4371-5	BH03	Total/NA	Solid	8015 NM	
890-4371-6	BH03A	Total/NA	Solid	8015 NM	
890-4371-7	BH04	Total/NA	Solid	8015 NM	
890-4371-8	BH04A	Total/NA	Solid	8015 NM	
890-4371-9	BH05	Total/NA	Solid	8015 NM	
890-4371-10	BH05A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

HPLC/IC

Leach Batch: 49876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-8	BH04A	Soluble	Solid	DI Leach	
890-4371-9	BH05	Soluble	Solid	DI Leach	
890-4371-10	BH05A	Soluble	Solid	DI Leach	
MB 880-49876/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4371-8 MS	BH04A	Soluble	Solid	DI Leach	
890-4371-8 MSD	BH04A	Soluble	Solid	DI Leach	

Leach Batch: 49884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Soluble	Solid	DI Leach	
890-4371-2	BH01A	Soluble	Solid	DI Leach	
890-4371-3	BH02	Soluble	Solid	DI Leach	
890-4371-4	BH02A	Soluble	Solid	DI Leach	
890-4371-5	BH03	Soluble	Solid	DI Leach	
890-4371-6	BH03A	Soluble	Solid	DI Leach	
890-4371-7	BH04	Soluble	Solid	DI Leach	
MB 880-49884/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49884/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49884/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4370-A-24-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4370-A-24-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 50034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-1	BH01	Soluble	Solid	300.0	49884
890-4371-2	BH01A	Soluble	Solid	300.0	49884
890-4371-3	BH02	Soluble	Solid	300.0	49884
890-4371-4	BH02A	Soluble	Solid	300.0	49884
890-4371-5	BH03	Soluble	Solid	300.0	49884
890-4371-6	BH03A	Soluble	Solid	300.0	49884
890-4371-7	BH04	Soluble	Solid	300.0	49884
MB 880-49884/1-A	Method Blank	Soluble	Solid	300.0	49884
LCS 880-49884/2-A	Lab Control Sample	Soluble	Solid	300.0	49884
LCSD 880-49884/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49884
890-4370-A-24-E MS	Matrix Spike	Soluble	Solid	300.0	49884
890-4370-A-24-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49884

Analysis Batch: 50035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-8	BH04A	Soluble	Solid	300.0	49876
890-4371-9	BH05	Soluble	Solid	300.0	49876
890-4371-10	BH05A	Soluble	Solid	300.0	49876
MB 880-49876/1-A	Method Blank	Soluble	Solid	300.0	49876
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	300.0	49876
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49876
890-4371-8 MS	BH04A	Soluble	Solid	300.0	49876
890-4371-8 MSD	BH04A	Soluble	Solid	300.0	49876

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH01

Date Collected: 03/20/23 13:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49999	03/31/23 22:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/28/23 22:47	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:06	SMC	EET MID

Client Sample ID: BH01A

Date Collected: 03/20/23 13:40
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	03/31/23 22:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/28/23 23:52	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:11	SMC	EET MID

Client Sample ID: BH02

Date Collected: 03/20/23 14:00
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	49999	03/31/23 23:01	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	49691	03/29/23 04:54	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:25	SMC	EET MID

Client Sample ID: BH02A

Date Collected: 03/20/23 14:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	03/31/23 23:21	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH02A
Date Collected: 03/20/23 14:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 06:44	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:30	SMC	EET MID

Client Sample ID: BH03
Date Collected: 03/20/23 14:40
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	03/31/23 23:41	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 06:21	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:35	SMC	EET MID

Client Sample ID: BH03A
Date Collected: 03/20/23 15:00
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	04/01/23 00:02	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 06:00	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:40	SMC	EET MID

Client Sample ID: BH04
Date Collected: 03/20/23 15:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	04/01/23 00:22	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 00:14	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Client Sample ID: BH04
Date Collected: 03/20/23 15:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	49884	03/29/23 16:21	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50034	03/31/23 00:44	SMC	EET MID

Client Sample ID: BH04A
Date Collected: 03/20/23 15:40
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	04/01/23 00:43	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 00:35	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50035	03/31/23 20:05	SMC	EET MID

Client Sample ID: BH05
Date Collected: 03/20/23 16:00
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	49999	04/01/23 01:03	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		10	1 uL	1 uL	49691	03/29/23 05:16	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50035	03/31/23 20:19	SMC	EET MID

Client Sample ID: BH05A
Date Collected: 03/20/23 16:20
Date Received: 03/21/23 08:15

Lab Sample ID: 890-4371-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	49657	03/27/23 16:06	MNR	EET MID
Total/NA	Analysis	8021B		20	5 mL	5 mL	49999	04/01/23 01:24	SM	EET MID
Total/NA	Analysis	Total BTEX		1			50240	04/03/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			49831	03/29/23 12:10	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	49652	03/27/23 14:32	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49691	03/29/23 05:38	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	50035	03/31/23 20:24	SMC	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: SEMU Permian 37 (Maverick)

Job ID: 890-4371-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4371-1	BH01	Solid	03/20/23 13:20	03/21/23 08:15	1'
890-4371-2	BH01A	Solid	03/20/23 13:40	03/21/23 08:15	5'
890-4371-3	BH02	Solid	03/20/23 14:00	03/21/23 08:15	1'
890-4371-4	BH02A	Solid	03/20/23 14:20	03/21/23 08:15	5'
890-4371-5	BH03	Solid	03/20/23 14:40	03/21/23 08:15	1'
890-4371-6	BH03A	Solid	03/20/23 15:00	03/21/23 08:15	5'
890-4371-7	BH04	Solid	03/20/23 15:20	03/21/23 08:15	1'
890-4371-8	BH04A	Solid	03/20/23 15:40	03/21/23 08:15	5'
890-4371-9	BH05	Solid	03/20/23 16:00	03/21/23 08:15	1'
890-4371-10	BH05A	Solid	03/20/23 16:20	03/21/23 08:15	5'

4/3/2023

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: ____________

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	817-683-2503	Email:	kjennings@ensolum.com, dnikanorov@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	SEMU Permian 37 (Maverick)	Turn Around	
Project Number:	03D2057074	☑ Routine	☐ Rush
Project Location:	Lea County, NM	Due Date:	
Sampler's Name:	Dmitry Nikanorov	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT

Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

ANALYSIS REQUEST

890-4371 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
BH01	S	3/20/2023	13:20	1'	Grab	1	X	X	X	
BH01A	S	3/20/2023	13:40	5'	Grab	1	X	X	X	
BH02	S	3/20/2023	14:00	1'	Grab	1	X	X	X	
BH02A	S	3/20/2023	14:20	5'	Grab	1	X	X	X	
BH03	S	3/20/2023	14:40	1'	Grab	1	X	X	X	
BH03A	S	3/20/2023	15:00	5'	Grab	1	X	X	X	
BH04	S	3/20/2023	15:20	1'	Grab	1	X	X	X	
BH04A	S	3/20/2023	15:40	5'	Grab	1	X	X	X	
BH05	S	3/20/2023	16:00	1'	Grab	1	X	X	X	
BH05A	S	3/20/2023	16:20	5'	Grab	1	X	X	X	

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 DN	Amanda Stief	3/21/23 0815			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4371-1
SDG Number: Lea County NM

Login Number: 4371
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4371-1
SDG Number: Lea County NM

Login Number: 4371
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/22/23 11:06 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

ENSOLUM

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 8:16:44 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 lates 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

ENSOLUM

APPENDIX F

Form C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2305453661
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: Bryce.Wagoner@mavresources.com	Incident # *(assigned by OCD)* NAPP230545366
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.5566346 Longitude -103.1960617

(NAD 83 in decimal degrees to 5 decimal places)

Site Name SEMU Permian #37	Site Type Flowline
Date Release Discovered February 7, 2023	API# *(if applicable)* 30-025-06252

Unit Letter	Section	Township	Range	County
L	19	20S	38E	Lea

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

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 3 bbls	Volume Recovered (bbls) 0 bbls
☒ Produced Water	Volume Released (bbls) 15 bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☒ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
The release was caused by a flowline rupture. The release occurred in the pasture. The source of the release has been stopped and the impacted area has been secured. A remediation crew scrapped visually impacted surface soils and staged them for disposal.

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Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305453661
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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

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

Printed Name: ____Bryce Wagoner _____ Title: ___Permian HSE Specialist II_____

Signature: _____ Date: __2/17/2023_____

email: _____Bryce.Wagoner@mavresources.com____ Telephone: ___928-241-1862_____

OCD Only

Received by: _____ Date: _____

NAPP2305453661

Pooled Fluids on the Surface										
	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries *edges of pool where depth is 0 . don't count shared boundaries*	Oil-Water Ratio (%)	Pooled Area (ft^2)	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	20.0	25.0	2.0	4.0	0.20	500.0	0.0	3.7	0.74	2.97
Rectangle B	15.0	25.0	2.0	3.0	0.20	375.0	0.1	3.7	0.74	2.97
Rectangle C	10.0	15.0	2.00	3.00	0.20	150.000	0.056	1.483	0.08	1.19
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
							Total Volume (bbls):	**8.90**	**1.57**	**7.12**

Subsurface Fluids										
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) *10% in consolidated sediments after rain to 50% in sand with no precipitation*	Oil-Water Ratio (%)	Area (ft^2)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	20.0	25.0	6.0	0.1	0.20	500.0	44.5	4.5	0.89	3.6
Rectangle B	15.0	25.0	6.0	0.1	0.20	375.0	33.4	3.3	0.67	2.7
Rectangle C	10.0	15.0	6.0	0.1	0.20	150.0	13.4	1.3	0.27	1.1
Rectangle D						0.0	0.0	0.0	0.00	0.0
Rectangle E						0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
							Total Volume (bbls):	**9.12**	**1.82**	**7.30**

TOTAL RELEASE VOLUME (bbls):	**18.0**

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305453661
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	51-100 (feet bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305453661
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: ___Bryce Wagoner_____ Title: _Permian HSE Specialist II_____

Signature:_____ Date: _____08/07/2023_____

email: _bryce.wagoner@mavresources.com _____ Telephone: ___928-241-1862_____

OCD Only

Received by: Shelly Wells Date: 8/11/2023

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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305453661
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: _Bryce Wagoner_____ Title: _Permian HSE Specialist II_____

Signature: _____ Date: ___08/07/2023_____

email: _Bryce.Wagoner@mavresources.com_____ Telephone: __928-241-1862_____

OCD Only

Received by: Shelly Wells Date: 8/11/2023

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Nelson Velez Date: 11/17/2023

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

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

CONDITIONS

Action 250698

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 250698
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan approved as written. Maverick Permian has 90-days (February 15. 2024) to submit it appropriate or final closure report.	11/17/2023