ENSOLUM

November 28, 2022

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

Re: Closure Request
SEM 180
Incident Number NAPP2231544488
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document site assessment and soil sampling activities performed at the SEM 180 (Site; Figure 1). The purpose of the soil sampling activities was to assess for the presence or absence of impacts to soil following an overspray release of crude oil from the flowline into the nearby pasture. Based on Site assessment, remediation activities, and laboratory analytical results from soil sampling events, Maverick is requesting closure for Incident Number NAPP2231544488.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit C, Section 23, Township 20 South, Range 37 East, in Lea County, New Mexico (32.56189° N, 103.22443° W) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On November 3, 2022, a leak from the flowline was discovered, resulting in the overspray release of approximately 3.4 barrels (bbls) of crude oil onto the lease road and adjacent pasture. Released fluids were not able to be recovered. Maverick reported the overspray release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on November 10, 2022. The release was assigned Incident Number NAPP2231544488.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to determine 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 (Appendix A). Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater depth. On September 27, 2022, a New Mexico Office of the State Engineer (NMOSE) well (L-15389-POD1) was advanced to a

depth of 120 feet bgs via air rotary drill rig. The borehole was located approximately 0.4 miles southeast of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix A. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1. The next closest permitted groundwater well with depth to groundwater data is United States Geologic Survey (USGS) permitted well 323358103123001, located approximately 5,017 feet northeast of the Site. The groundwater well has a reported depth to groundwater of 78.8 feet bgs and an unknown total depth. Ground surface elevation at the groundwater well location is 3,535 feet above mean sea level (amsl), which is approximately 10 feet higher in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well record are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is an freshwater playa lake, located approximately 12,064 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, and wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total Petroleum hydrocarbons (TPH): 2,500 mg/kg
- Desiel Range Organics (DRO) – TPH + Gasoline Range Organics (GRO) - TPH: 1,000 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied 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 to be reclaimed following remediation.

INITIAL SITE ASSESSMENT ACTIVITIES

On November 3, 2022, personnel were at the Site to complete Site assessment activities based on information provided by Maverick operations and visibly stained vegetation observed in the pasture overspray area. Eight discrete soil samples (SS01 through SS08) were collected within the overspray area at a depth of 0.5 feet bgs to assess for the presence or absence of impacts to soil following an overspray release of crude oil from the flowline. In addition, discrete soil samples SS09 through SS12 were collected around the overspray area to confirm the lateral extent of the overspray area.

The soil samples were field screened for volatile aromatic hydrocarbons utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The

overspray area 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 C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of conern (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 through SS08, located within the overspray area, indicated all COC concentrations were compliant with the Site Closure Criteria and compliant with the reclamation requirement. In addition, the lateral delineation samples (SS09 through SS12) were compliant with the reclamation requirement and successfully define the lateral extent of the overspray area. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

REMEDIATION ACTIVITIES

While impacted and/or waste-containing soil was not identified within and around the release extent, stained soil and vegetation were bio-remediated *in-situ* with the use of a pressure washer and a bio-remediation agent, Micro-Blaze® Emergency Liquid Spill Control, to increase Site aesthetics. Ensolum oversaw the remedation activities on November 3, 2022. Photographic documentation is included in Appendix C.

The total footprint of the overspray area was approximately 42,300 square feet.

CLOSURE REQUEST

Based on soil sample laboratory analytical results compliant with the reclamation requirement, remediation activities appear to have successfully remediated the crude oil impacts at the Site. Delineation soil samples collected outside the release extent successfully define the edge of the overspray area. While impacted and/or waste-containing soil was not identified within and around the release extent, stained soil and vegetation were bio-remediated *in-situ* with the use of a pressure washer and a bio-remediation agent. Maverick believes these remedial actions have been protective of human health, the environment, and groundwater. As such, Maverick respectfully requests closure for Incident Number NAPP2231544488. The Final C-141 is included in Appendix E.

If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Ashley Ager, PG
Program Director

cc: Bryce Wagoner, Maverick Permian, LLC
Bureau of Land Management

Appendices:

Figure 1	Site Receptors Map
Figure 2	Soil Sample Location Map
Table 1	Soil Sample Analytical Results
Appendix A	Lithologic/Soil Sampling Log
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports
Appendix E	Form C-141

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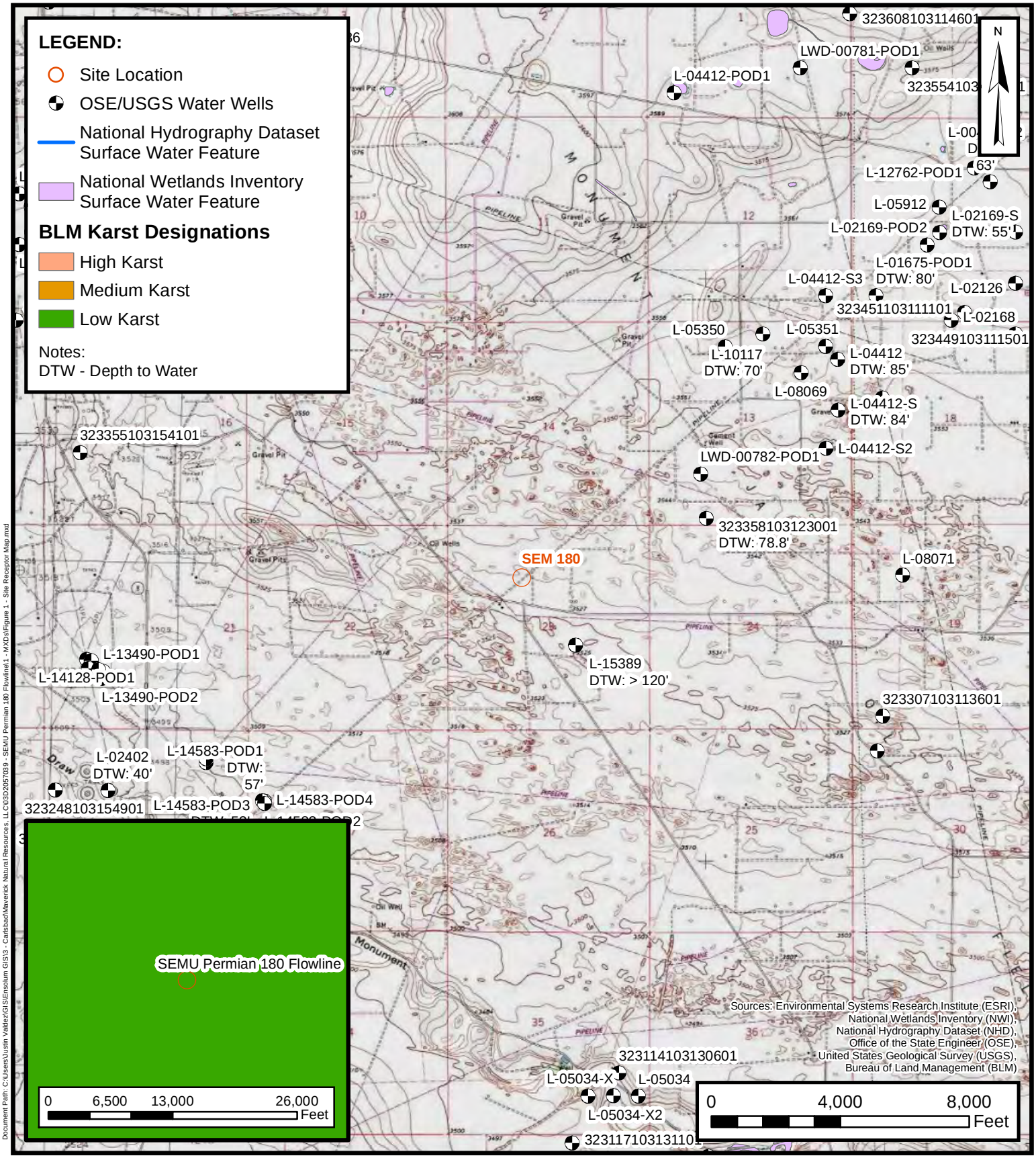
FIGURES



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\3 - Carlsbad\Maverick Natural Resources, LLC\03D2057039 - SEMU Permian 180 Flowline\1 - MXDs\Figure 1 - Site Receptor Map.mxd

Site Receptor Map

Maverick Natural Resources, LLC
SEM 180
NAPP2231544488
Unit C, Sec 23, T20S, R37E
Lea County, New Mexico

FIGURE
1

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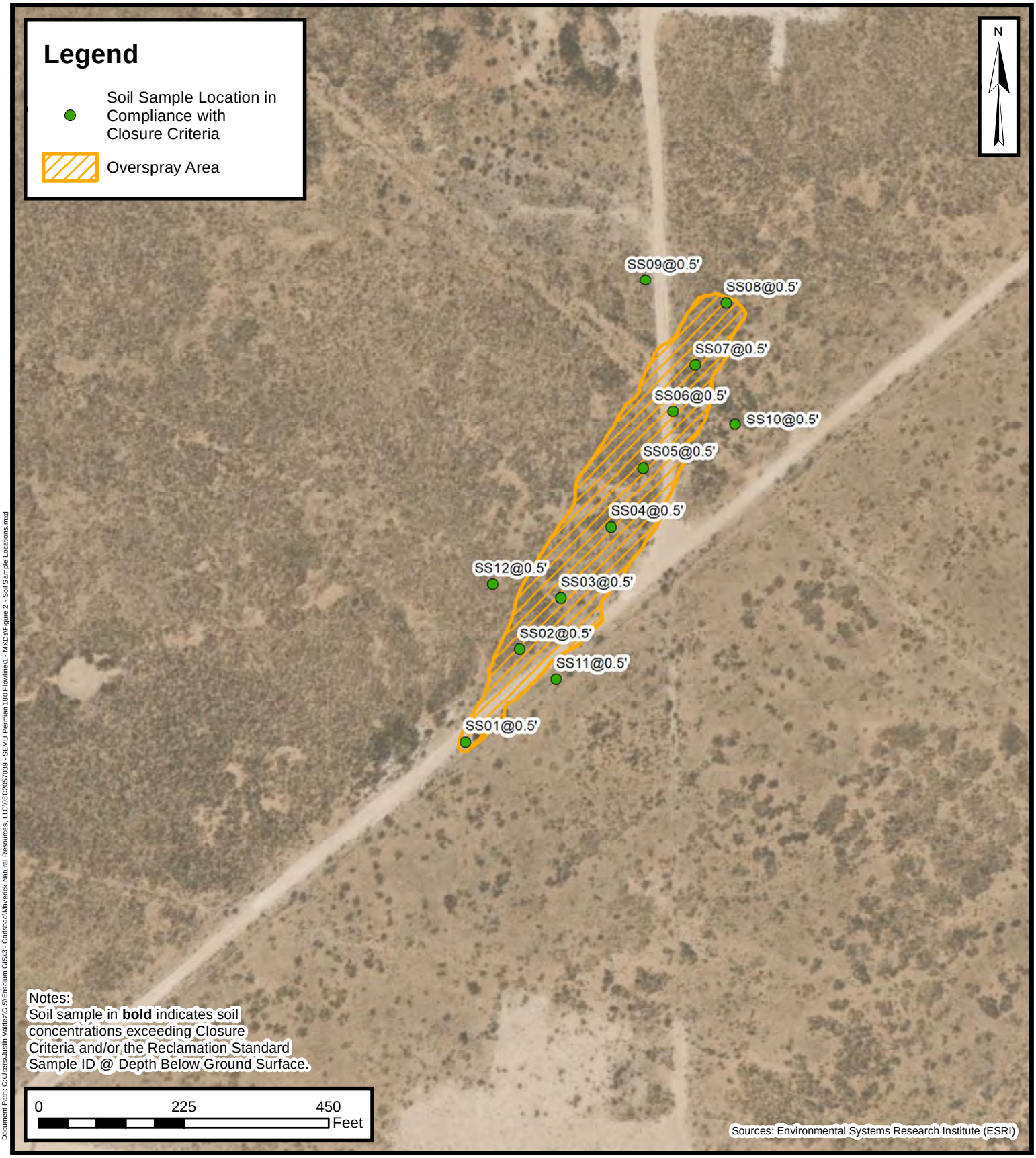
Environmental, Engineering and Hydrogeologic Consultants



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\3 - Carlsbad\Maverick Natural Resources, LLC\03\20257039 - SEMU Permian 180 Flowline\1 - MXDs\Figure 2 - Soil Sample Locations.mxd

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Soil Sample Locations

Maverick Natural Resources, LLC
SEM 180
NAPP2231544488
Unit C, Sec 23, T20S, R37E
Lea County, New Mexico

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
SEM 180
Maverick Natural Resources, 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**	**20,000**
Soil Samples										
SS01	11/03/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	120
SS02	11/03/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	17.2
SS03	11/03/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	56.8
SS04	11/03/2022	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	15.2
SS05	11/03/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	44.1
SS06	11/03/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	46.8
SS07	11/03/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	17.5
SS08	11/03/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	16.2
SS09	11/03/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	15.9
SS10	11/03/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	16.5
SS11	11/03/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	14.4
SS12	11/03/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	13.4

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

Lithologic/Soil Sampling Log

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Sample Name: BH01	Date: 09-27-22	
Site Name: SEMU EUMONT # 068		
Incident Number:		
Job Number: 03D2057017		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: CS/JF	Method: AIR ROTARY
Coordinates:	Hole Diameter: 6"	Total Depth: 120'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
								TD 1/2
								SAND: GRYSH-TAN, med-fngn, p grated mod amts clay
					10'			CAL: Grysh-tan, med gn, w grated small fair amts clay
					20'			
					30'			SAND: tan-ltbn; fn-med gn, p grated
					40'			SAND: tan-bn, fn-med gn, p grated
					50'			SAND: ltbn-tan, vfngn, vp grated
					60'			SAND: ltbn-tan, vfngn, vp grated
					70'			SAND: ltbn-tan, vfn-fngn, vp-p grated tr amts CHT like rock: ltbrd, hd, sl carc
					80'			SAND: ltbn-vfn-fngn, vp-p grated tr amts clay
					90'			SAND: ltbn, vfn-fngn, vp-p grated
					100'			SAND: ltbn-vfn-fngn occ coarse, p gra cd tr amts clay
					110'			SAND: ltbn vfn-fngn, vp grated tr amts clay
					~101'			

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APPENDIX B

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
L-15389-POD1		L-15389

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

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

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	33	25.88	N
	LONGITUDE	-103	13	11.88	W

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

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

SEMU-EUMON # 068

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)
9/27/2022	09/27/2022	100		

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				

OSE DII OCT 14 2022 PM2:31

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. L-15389	POD NO. 1	TRN NO. 733584	
LOCATION 20S.37E.23.2.1.4		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		SAND	Y ✔ N	
20	21		LIMESTONE	Y ✔ N	
21	100		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	
				Y N	
				Y N	

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:

OSE DII OCT 14 2022 PM2:31

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 — 09/27/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. L-15389	POD NO. 1	TRN NO. 733584	
LOCATION 20S. 37E. 23. 2. 1. 4		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-15389-POD1

Well owner: MAVERICK NATURAL RESOURCES LLC 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: 09/30/2022 Date well plugging concluded: 09/30/2022

5) GPS Well Location: Latitude: 32 deg, 33 min, 25.88 sec
Longitude: -103 deg, 13 min, 11.88 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 100 ft below ground level (bgl), by the following manner: Drill Cuttins to 10 feet, hydrated bentonite

7) Static water level measured at initiation of plugging: N/ ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 08/29/2022

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):

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	N/A	N/A	N/A	NO WATER WAS DETECTED, WAS PLUGGED BACK WITH DRILL CUTTINGS WELL WAS NON ARTISAN AND BREACHES ONLY ONE AQUIFAR..

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.

Russell Southerland — Signature of Well Driller

09/02/2022 — Date

Version: September 8, 2009
Page 2 of 2

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	?

Groundwater | United States | GO

Click to hideNews Bulletins

- **ALERT!** USGS will be performing an upgrade to their network on **Thursday, November 17, 2022, starting at 10:00pm EST**. During the maintenance period, the Water Data for the Nation web portal and water services will be accessible; however, delivery of the most recent time-series data and WaterAlert notifications will be disrupted. The maintenance period is not expected to exceed 4 hours, after which the backlog of time-series data will be processed and delivered.
- Water Data for the Nation Blog

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323358103123001

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 323358103123001 20S.37E.13.32130

Lea County, New Mexico
Latitude 32°33'58", Longitude 103°12'30" NAD27
Land-surface elevation 3,544 feet above NAVD88
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1954-04-02		D	62610		3468.48	NGVD29	1	Z		
1954-04-02		D	62611		3469.61	NAVD88	1	Z		
1954-04-02		D	72019	74.39			1	Z		
1961-02-27		D	62610		3467.71	NGVD29	1	Z		
1961-02-27		D	62611		3468.84	NAVD88	1	Z		
1961-02-27		D	72019	75.16			1	Z		
1968-04-08		D	62610		3465.53	NGVD29	P	Z		
1968-04-08		D	62611		3466.66	NAVD88	P	Z		
1968-04-08		D	72019	77.34			P	Z		
1971-01-14		D	62610		3465.75	NGVD29	1	Z		
1971-01-14		D	62611		3466.88	NAVD88	1	Z		
1971-01-14		D	72019	77.12			1	Z		
1976-02-04		D	62610		3464.07	NGVD29	1	Z		
1976-02-04		D	62611		3465.20	NAVD88	1	Z		
1976-02-04		D	72019	78.80			1	Z		

Date	Time	? Water-level date-time accuracy	? Parameter code		Water level, feet below land surface	Water level, feet above specific vertical datum		Referenced vertical datum	
1981-02-10		D	62610		3463.20	NGVD29	1	Z	
1981-02-10		D	62611		3464.33	NAVD88	1	Z	
1981-02-10		D	72019	79.67			1	Z	
1986-03-27		D	62610		3462.72	NGVD29	1	Z	
1986-03-27		D	62611		3463.85	NAVD88	1	Z	
1986-03-27		D	72019	80.15			1	Z	
1991-02-01		D	62610		3462.54	NGVD29	1	Z	
1991-02-01		D	62611		3463.67	NAVD88	1	Z	
1991-02-01		D	72019	80.33			1	Z	

Explanation

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

Questions about sites/data?
Feedback on this web site
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: 2022-11-16 13:59:53 EST
0.27 0.23 nadww01

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APPENDIX C

Photographic Log

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Photographic Log Maverick
Permian, LLC
SEM 180
NAPP2231544488

Photograph 1 Date:11/3/2022
Description: Northeast view of overspray area

Photograph 2 Date:11/3/2022
Description: Southwest view of overspray area

Photograph 3 Date:11/3/2022
Description: Southeast view of overspray area

Photograph 4 Date:11/3/2022
Description: Northeast view of overspray area

ENSOLUM

APPENDIX D

Laboratory Analytical Reports

eurofins | Environment Testing

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3392-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: SEMU Permian 180 Flowline

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/14/2022 12:00:52 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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.

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Laboratory Job ID: 890-3392-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3392-1
Project/Site: SEMU Permian 180 Flowline SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Job ID: 890-3392-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3392-1

Receipt
The samples were received on 11/4/2022 1:10 PM. 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 3.8°C

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39022 and analytical batch 880-39343 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39138 and analytical batch 880-39343 was outside the upper control limits.

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: The surrogate recovery for the blank associated with preparation batch 880-38976 and analytical batch 880-39058 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS05 (890-3392-5). 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: SS07 (890-3392-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis 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 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS01

Lab Sample ID: 890-3392-1
Matrix: Solid

Date Collected: 11/03/22 13:45
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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		11/09/22 15:29	11/12/22 08:50	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/09/22 15:29	11/12/22 08:50	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/09/22 15:29	11/12/22 08:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/09/22 15:29	11/12/22 08:50	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/09/22 15:29	11/12/22 08:50	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/09/22 15:29	11/12/22 08:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:50*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:50*	*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			11/14/22 12:31	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			11/10/22 10:55	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		11/08/22 10:47	11/09/22 16:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 16:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*11/08/22 10:47*	*11/09/22 16:35*	*1*
o-Terphenyl	*103*		*70 - 130*	*11/08/22 10:47*	*11/09/22 16:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**120**		4.96		mg/Kg			11/11/22 10:44	1

Client Sample ID: SS02

Lab Sample ID: 890-3392-2
Matrix: Solid

Date Collected: 11/03/22 13:50
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 09:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 09:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 09:16	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 09:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 09:16	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 09:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*11/09/22 15:29*	*11/12/22 09:16*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS02

Lab Sample ID: 890-3392-2
Matrix: Solid
Date Collected: 11/03/22 13:50
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/09/22 15:29*	*11/12/22 09:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/14/22 12:31	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			11/10/22 10:55	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		11/08/22 10:47	11/09/22 16:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/08/22 10:47	11/09/22 16:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/08/22 10:47	11/09/22 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*11/08/22 10:47*	*11/09/22 16:57*	*1*
o-Terphenyl	*83*		*70 - 130*	*11/08/22 10:47*	*11/09/22 16:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.2**		5.01	mg/Kg			11/11/22 10:51	1

Client Sample ID: SS03

Lab Sample ID: 890-3392-3
Matrix: Solid
Date Collected: 11/03/22 13:55
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 09:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 09:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 09:43	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/09/22 15:29	11/12/22 09:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 09:43	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/09/22 15:29	11/12/22 09:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*11/09/22 15:29*	*11/12/22 09:43*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/09/22 15:29*	*11/12/22 09:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/14/22 12:31	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			11/10/22 10:55	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS03

Lab Sample ID: 890-3392-3
Matrix: Solid
Date Collected: 11/03/22 13:55
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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	<49.9	U	49.9		mg/Kg		11/08/22 10:47	11/09/22 17:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/08/22 10:47	11/09/22 17:19	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/08/22 10:47	11/09/22 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*11/08/22 10:47*	*11/09/22 17:19*	*1*
o-Terphenyl	*92*		*70 - 130*	*11/08/22 10:47*	*11/09/22 17:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.8**		4.98		mg/Kg			11/11/22 11:13	1

Client Sample ID: SS04

Lab Sample ID: 890-3392-4
Matrix: Solid
Date Collected: 11/03/22 14:00
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 10:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 10:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 10:09	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/09/22 15:29	11/12/22 10:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 10:09	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/09/22 15:29	11/12/22 10:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*11/09/22 15:29*	*11/12/22 10:09*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/09/22 15:29*	*11/12/22 10:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/14/22 12:31	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			11/10/22 10:55	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	<49.8	U	49.8		mg/Kg		11/08/22 10:47	11/09/22 17:41	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/08/22 10:47	11/09/22 17:41	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/08/22 10:47	11/09/22 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*11/08/22 10:47*	*11/09/22 17:41*	*1*
o-Terphenyl	*91*		*70 - 130*	*11/08/22 10:47*	*11/09/22 17:41*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS04

Lab Sample ID: 890-3392-4
Matrix: Solid
Date Collected: 11/03/22 14:00
Date Received: 11/04/22 13:10
Sample Depth: 0.5

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.2		4.99		mg/Kg			11/11/22 11:20	1

Client Sample ID: SS05

Lab Sample ID: 890-3392-5
Matrix: Solid
Date Collected: 11/03/22 14:05
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 10:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 10:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 10:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 10:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 10:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 10:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*11/09/22 15:29*	*11/12/22 10:36*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/09/22 15:29*	*11/12/22 10:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/14/22 12:31	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			11/10/22 10:55	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		11/08/22 10:47	11/09/22 18:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 18:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*64*	*S1-*	*70 - 130*	*11/08/22 10:47*	*11/09/22 18:03*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*11/08/22 10:47*	*11/09/22 18:03*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44.1		4.95		mg/Kg			11/11/22 11:27	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS06

Lab Sample ID: 890-3392-6
Matrix: Solid
Date Collected: 11/03/22 14:10
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 11:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 11:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 11:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 11:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 11:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:02*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/14/22 12:31	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			11/10/22 10:55	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		11/08/22 10:47	11/09/22 18:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/08/22 10:47	11/09/22 18:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/08/22 10:47	11/09/22 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*11/08/22 10:47*	*11/09/22 18:25*	*1*
o-Terphenyl	*78*		*70 - 130*	*11/08/22 10:47*	*11/09/22 18:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46.8**		5.04		mg/Kg			11/11/22 11:34	1

Client Sample ID: SS07

Lab Sample ID: 890-3392-7
Matrix: Solid
Date Collected: 11/03/22 14:15
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 11:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 11:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 11:28	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/09/22 15:29	11/12/22 11:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 11:28	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/09/22 15:29	11/12/22 11:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:28*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS07

Lab Sample ID: 890-3392-7
Matrix: Solid
Date Collected: 11/03/22 14:15
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/14/22 12:31	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			11/10/22 10:55	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		11/08/22 10:47	11/09/22 18:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/08/22 10:47	11/09/22 18:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/08/22 10:47	11/09/22 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*66*	*S1-*	*70 - 130*	*11/08/22 10:47*	*11/09/22 18:47*	*1*
o-Terphenyl	*71*		*70 - 130*	*11/08/22 10:47*	*11/09/22 18:47*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**17.5**		4.95	mg/Kg			11/11/22 11:41	1

Client Sample ID: SS08

Lab Sample ID: 890-3392-8
Matrix: Solid
Date Collected: 11/03/22 14:20
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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		11/09/22 15:29	11/12/22 11:54	1
Toluene	<0.00201	U	0.00201	mg/Kg		11/09/22 15:29	11/12/22 11:54	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		11/09/22 15:29	11/12/22 11:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		11/09/22 15:29	11/12/22 11:54	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		11/09/22 15:29	11/12/22 11:54	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		11/09/22 15:29	11/12/22 11:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:54*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*11/09/22 15:29*	*11/12/22 11:54*	*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			11/14/22 12:31	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			11/10/22 10:55	1

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Client Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS08

Date Collected: 11/03/22 14:20
Date Received: 11/04/22 13:10
Sample Depth: 0.5

Lab Sample ID: 890-3392-8

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	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 19:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 19:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*11/08/22 10:47*	*11/09/22 19:09*	*1*
o-Terphenyl	*81*		*70 - 130*	*11/08/22 10:47*	*11/09/22 19:09*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.2**		5.00		mg/Kg			11/11/22 11:48	1

Surrogate Summary

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

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)
890-3392-1	SS01	83	101
890-3392-1 MS	SS01	95	111
890-3392-1 MSD	SS01	89	115
890-3392-2	SS02	100	103
890-3392-3	SS03	90	104
890-3392-4	SS04	95	98
890-3392-5	SS05	90	109
890-3392-6	SS06	91	104
890-3392-7	SS07	82	98
890-3392-8	SS08	96	105
LCS 880-39138/1-A	Lab Control Sample	93	112
LCSD 880-39138/2-A	Lab Control Sample Dup	108	112
MB 880-39022/5-A	Method Blank	60 S1-	99
MB 880-39138/5-A	Method Blank	59 S1-	99

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)
890-3385-A-1-C MS	Matrix Spike	77	77
890-3385-A-1-D MSD	Matrix Spike Duplicate	71	70
890-3392-1	SS01	95	103
890-3392-2	SS02	77	83
890-3392-3	SS03	88	92
890-3392-4	SS04	88	91
890-3392-5	SS05	64 S1-	68 S1-
890-3392-6	SS06	71	78
890-3392-7	SS07	66 S1-	71
890-3392-8	SS08	78	81
LCS 880-38976/2-A	Lab Control Sample	83	98
LCSD 880-38976/3-A	Lab Control Sample Dup	88	104
MB 880-38976/1-A	Method Blank	117	135 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39022/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39022

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*

Lab Sample ID: MB 880-39138/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*

Lab Sample ID: LCS 880-39138/1-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09491		mg/Kg		95	70 - 130		
Toluene			0.100	0.09455		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.08730		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09563		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08952		mg/Kg		90	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

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

Lab Sample ID: LCSD 880-39138/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39343 — **Prep Batch: 39138**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09075		mg/Kg		91	70 - 130	4	35
Ethylbenzene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2057		mg/Kg		103	70 - 130	7	35
o-Xylene			0.100	0.1104		mg/Kg		110	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-3392-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39343 — **Prep Batch: 39138**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.08927		mg/Kg		89	70 - 130
Toluene	<0.00201	U	0.100	0.08382		mg/Kg		83	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.07488		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1635		mg/Kg		81	70 - 130
o-Xylene	<0.00201	U	0.100	0.08493		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3392-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39343 — **Prep Batch: 39138**

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	0.07916		mg/Kg		80	70 - 130	12	35
Toluene	<0.00201	U	0.0990	0.07843		mg/Kg		79	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.07188		mg/Kg		73	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1570		mg/Kg		79	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08045		mg/Kg		81	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

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

Lab Sample ID: MB 880-38976/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39058 — **Prep Batch: 38976**

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		11/08/22 10:47	11/09/22 08:44	1

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QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-38976/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39058 — **Prep Batch: 38976**

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		11/08/22 10:47	11/09/22 08:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 10:47	11/09/22 08:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*11/08/22 10:47*	*11/09/22 08:44*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*11/08/22 10:47*	*11/09/22 08:44*	*1*

Lab Sample ID: LCS 880-38976/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39058 — **Prep Batch: 38976**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	846.2		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	841.5		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*83*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: LCSD 880-38976/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39058 — **Prep Batch: 38976**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	900.9		mg/Kg		90	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	892.6		mg/Kg		89	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-3385-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 39058 — **Prep Batch: 38976**

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	997	1010		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	918.8		mg/Kg		92	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

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

Lab Sample ID: 890-3385-A-1-D MSD
Matrix: Solid
Analysis Batch: 39058

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38976

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	999	963.2		mg/Kg		96	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	854.2		mg/Kg		86	70 - 130	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*71*		*70 - 130*
o-Terphenyl	*70*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38850/1-A
Matrix: Solid
Analysis Batch: 39147

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			11/11/22 09:47	1

Lab Sample ID: LCS 880-38850/2-A
Matrix: Solid
Analysis Batch: 39147

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.1		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-38850/3-A
Matrix: Solid
Analysis Batch: 39147

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	257.1		mg/Kg		103	90 - 110	2	20

Lab Sample ID: 890-3392-8 MS
Matrix: Solid
Analysis Batch: 39147

Client Sample ID: SS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	16.2		250	286.8		mg/Kg		108	90 - 110		

Lab Sample ID: 890-3392-8 MSD
Matrix: Solid
Analysis Batch: 39147

Client Sample ID: SS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	16.2		250	282.5		mg/Kg		107	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

GC VOA

Prep Batch: 39022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39022/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 39138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	5035	
890-3392-2	SS02	Total/NA	Solid	5035	
890-3392-3	SS03	Total/NA	Solid	5035	
890-3392-4	SS04	Total/NA	Solid	5035	
890-3392-5	SS05	Total/NA	Solid	5035	
890-3392-6	SS06	Total/NA	Solid	5035	
890-3392-7	SS07	Total/NA	Solid	5035	
890-3392-8	SS08	Total/NA	Solid	5035	
MB 880-39138/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3392-1 MS	SS01	Total/NA	Solid	5035	
890-3392-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 39343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	8021B	39138
890-3392-2	SS02	Total/NA	Solid	8021B	39138
890-3392-3	SS03	Total/NA	Solid	8021B	39138
890-3392-4	SS04	Total/NA	Solid	8021B	39138
890-3392-5	SS05	Total/NA	Solid	8021B	39138
890-3392-6	SS06	Total/NA	Solid	8021B	39138
890-3392-7	SS07	Total/NA	Solid	8021B	39138
890-3392-8	SS08	Total/NA	Solid	8021B	39138
MB 880-39022/5-A	Method Blank	Total/NA	Solid	8021B	39022
MB 880-39138/5-A	Method Blank	Total/NA	Solid	8021B	39138
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	8021B	39138
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39138
890-3392-1 MS	SS01	Total/NA	Solid	8021B	39138
890-3392-1 MSD	SS01	Total/NA	Solid	8021B	39138

Analysis Batch: 39478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	Total BTEX	
890-3392-2	SS02	Total/NA	Solid	Total BTEX	
890-3392-3	SS03	Total/NA	Solid	Total BTEX	
890-3392-4	SS04	Total/NA	Solid	Total BTEX	
890-3392-5	SS05	Total/NA	Solid	Total BTEX	
890-3392-6	SS06	Total/NA	Solid	Total BTEX	
890-3392-7	SS07	Total/NA	Solid	Total BTEX	
890-3392-8	SS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 38976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

GC Semi VOA (Continued)

Prep Batch: 38976 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-2	SS02	Total/NA	Solid	8015NM Prep	
890-3392-3	SS03	Total/NA	Solid	8015NM Prep	
890-3392-4	SS04	Total/NA	Solid	8015NM Prep	
890-3392-5	SS05	Total/NA	Solid	8015NM Prep	
890-3392-6	SS06	Total/NA	Solid	8015NM Prep	
890-3392-7	SS07	Total/NA	Solid	8015NM Prep	
890-3392-8	SS08	Total/NA	Solid	8015NM Prep	
MB 880-38976/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38976/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38976/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3385-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3385-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	8015B NM	38976
890-3392-2	SS02	Total/NA	Solid	8015B NM	38976
890-3392-3	SS03	Total/NA	Solid	8015B NM	38976
890-3392-4	SS04	Total/NA	Solid	8015B NM	38976
890-3392-5	SS05	Total/NA	Solid	8015B NM	38976
890-3392-6	SS06	Total/NA	Solid	8015B NM	38976
890-3392-7	SS07	Total/NA	Solid	8015B NM	38976
890-3392-8	SS08	Total/NA	Solid	8015B NM	38976
MB 880-38976/1-A	Method Blank	Total/NA	Solid	8015B NM	38976
LCS 880-38976/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38976
LCSD 880-38976/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38976
890-3385-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	38976
890-3385-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38976

Analysis Batch: 39212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Total/NA	Solid	8015 NM	
890-3392-2	SS02	Total/NA	Solid	8015 NM	
890-3392-3	SS03	Total/NA	Solid	8015 NM	
890-3392-4	SS04	Total/NA	Solid	8015 NM	
890-3392-5	SS05	Total/NA	Solid	8015 NM	
890-3392-6	SS06	Total/NA	Solid	8015 NM	
890-3392-7	SS07	Total/NA	Solid	8015 NM	
890-3392-8	SS08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Soluble	Solid	DI Leach	
890-3392-2	SS02	Soluble	Solid	DI Leach	
890-3392-3	SS03	Soluble	Solid	DI Leach	
890-3392-4	SS04	Soluble	Solid	DI Leach	
890-3392-5	SS05	Soluble	Solid	DI Leach	
890-3392-6	SS06	Soluble	Solid	DI Leach	
890-3392-7	SS07	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

HPLC/IC (Continued)

Leach Batch: 38850 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-8	SS08	Soluble	Solid	DI Leach	
MB 880-38850/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38850/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38850/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3392-8 MS	SS08	Soluble	Solid	DI Leach	
890-3392-8 MSD	SS08	Soluble	Solid	DI Leach	

Analysis Batch: 39147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3392-1	SS01	Soluble	Solid	300.0	38850
890-3392-2	SS02	Soluble	Solid	300.0	38850
890-3392-3	SS03	Soluble	Solid	300.0	38850
890-3392-4	SS04	Soluble	Solid	300.0	38850
890-3392-5	SS05	Soluble	Solid	300.0	38850
890-3392-6	SS06	Soluble	Solid	300.0	38850
890-3392-7	SS07	Soluble	Solid	300.0	38850
890-3392-8	SS08	Soluble	Solid	300.0	38850
MB 880-38850/1-A	Method Blank	Soluble	Solid	300.0	38850
LCS 880-38850/2-A	Lab Control Sample	Soluble	Solid	300.0	38850
LCSD 880-38850/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38850
890-3392-8 MS	SS08	Soluble	Solid	300.0	38850
890-3392-8 MSD	SS08	Soluble	Solid	300.0	38850

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS01

Lab Sample ID: 890-3392-1
Matrix: Solid
Date Collected: 11/03/22 13:45
Date Received: 11/04/22 13:10

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	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 08:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 16:35	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 10:44	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-3392-2
Matrix: Solid
Date Collected: 11/03/22 13:50
Date Received: 11/04/22 13:10

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	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 09:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 16:57	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 10:51	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-3392-3
Matrix: Solid
Date Collected: 11/03/22 13:55
Date Received: 11/04/22 13:10

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	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 09:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 17:19	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:13	CH	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-3392-4
Matrix: Solid
Date Collected: 11/03/22 14:00
Date Received: 11/04/22 13:10

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	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 10:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS04

Date Collected: 11/03/22 14:00
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-4

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			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 17:41	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:20	CH	EET MID

Client Sample ID: SS05

Date Collected: 11/03/22 14:05
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-5

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			5.02 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 10:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 18:03	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:27	CH	EET MID

Client Sample ID: SS06

Date Collected: 11/03/22 14:10
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-6

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			5.03 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 11:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 18:25	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:34	CH	EET MID

Client Sample ID: SS07

Date Collected: 11/03/22 14:15
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-7

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			5.01 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 11:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 18:47	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: SEMU Permian 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Client Sample ID: SS07
Date Collected: 11/03/22 14:15
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-7
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	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:41	CH	EET MID

Client Sample ID: SS08
Date Collected: 11/03/22 14:20
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3392-8
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			4.97 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 11:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39478	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39212	11/10/22 10:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38976	11/08/22 10:47	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39058	11/09/22 19:09	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 11:48	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 180 Flowline

Job ID: 890-3392-1
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	T104704400-22-24	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 180 Flowline

Job ID: 890-3392-1
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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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 180 Flowline

Job ID: 890-3392-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3392-1	SS01	Solid	11/03/22 13:45	11/04/22 13:10	0.5
890-3392-2	SS02	Solid	11/03/22 13:50	11/04/22 13:10	0.5
890-3392-3	SS03	Solid	11/03/22 13:55	11/04/22 13:10	0.5
890-3392-4	SS04	Solid	11/03/22 14:00	11/04/22 13:10	0.5
890-3392-5	SS05	Solid	11/03/22 14:05	11/04/22 13:10	0.5
890-3392-6	SS06	Solid	11/03/22 14:10	11/04/22 13:10	0.5
890-3392-7	SS07	Solid	11/03/22 14:15	11/04/22 13:10	0.5
890-3392-8	SS08	Solid	11/03/22 14:20	11/04/22 13:10	0.5

eurofins

Environment Testing
Xenco

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: _____

www.xenco.com Page 1 of 1

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

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 180 Flowline	Turn Around	
Project Number:	03D205 7039	☑ Routine ☐ Rush	
Project Location:	Lea County, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	IR#007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.0	
Total Containers:		Corrected Temperature:	3.8	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	s	11.03.22	1345	0.5'	G	1	x	x	x
SS02	s	11.03.22	1350	0.5'	G	1	x	x	x
SS03	s	11.03.22	1355	0.5'	G	1	x	x	x
SS04	s	11.03.22	1400	0.5'	G	1	x	x	x
SS05	s	11.03.22	1405	0.5'	G	1	x	x	x
SS06	s	11.03.22	1410	0.5'	G	1	x	x	x
SS07	s	11.03.22	1415	0.5'	G	1	x	x	x
SS08	s	11.03.22	1420	0.5'	G	1	x	x	x

890-3392 Chain of Custody

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2S0_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 Comments

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		11.4.22 1310	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone. 575-988-3199 Fax. 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1011 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3392-1
Address: 1211 W Florida Ave	Due Date Requested: 11/10/2022			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: SEMU Permian 180 Flowline	Project #: 89000094			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note
			Preservation Code:										
SS01 (890-3392-1)	11/3/22	13 45 Mountain		Solid			X	X	X	X	X	1	
SS02 (890-3392-2)	11/3/22	13 50 Mountain		Solid			X	X	X	X	X	1	
SS03 (890-3392-3)	11/3/22	13 55 Mountain		Solid			X	X	X	X	X	1	
SS04 (890-3392-4)	11/3/22	14 00 Mountain		Solid			X	X	X	X	X	1	
SS05 (890-3392-5)	11/3/22	14 05 Mountain		Solid			X	X	X	X	X	1	
SS06 (890-3392-6)	11/3/22	14 10 Mountain		Solid			X	X	X	X	X	1	
SS07 (890-3392-7)	11/3/22	14 15 Mountain		Solid			X	X	X	X	X	1	
SS08 (890-3392-8)	11/3/22	14 20 Mountain		Solid			X	X	X	X	X	1	

Note. Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver. 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3392-1
SDG Number: Lea County NM

Login Number: 3392
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: 890-3392-1
SDG Number: Lea County NM

Login Number: 3392
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 11/07/22 09:10 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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-3394-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: SEMU PERMIAN 180 FLOWLINE

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/14/2022 12:02:48 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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.

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Laboratory Job ID: 890-3394-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3394-1
Project/Site: SEMU PERMIAN 180 FLOWLINE SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Job ID: 890-3394-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3394-1

Receipt
The samples were received on 11/4/2022 1:10 PM. 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 3.8°C

Receipt Exceptions
The following samples analyzed were received and analyzed from an unpreserved bulk soil jar: SS09 (890-3394-1), SS10 (890-3394-2), SS11 (890-3394-3) and SS12 (890-3394-4).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39022 and analytical batch 880-39343 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39138 and analytical batch 880-39343 was outside the upper control limits.

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

GC Semi VOA
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 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS09

Lab Sample ID: 890-3394-1
Matrix: Solid
Date Collected: 11/03/22 14:45
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 15:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*11/09/22 15:29*	*11/12/22 15:25*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/09/22 15:29*	*11/12/22 15:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/14/22 12:31	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			11/09/22 12:26	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		11/08/22 13:32	11/08/22 23:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 23:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 23:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/08/22 13:32*	*11/08/22 23:34*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/08/22 13:32*	*11/08/22 23:34*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.9**		5.05		mg/Kg			11/11/22 12:53	1

Client Sample ID: SS10

Lab Sample ID: 890-3394-2
Matrix: Solid
Date Collected: 11/03/22 14:50
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:52	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:52	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 15:52	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 15:52	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*11/09/22 15:29*	*11/12/22 15:52*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS10

Lab Sample ID: 890-3394-2
Matrix: Solid
Date Collected: 11/03/22 14:50
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*11/09/22 15:29*	*11/12/22 15:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			11/14/22 12:31	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			11/09/22 12:26	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		11/08/22 13:32	11/08/22 23:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		11/08/22 13:32	11/08/22 23:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		11/08/22 13:32	11/08/22 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*11/08/22 13:32*	*11/08/22 23:55*	*1*
o-Terphenyl	*116*		*70 - 130*	*11/08/22 13:32*	*11/08/22 23:55*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16.5**		4.98	mg/Kg			11/11/22 13:00	1

Client Sample ID: SS11

Lab Sample ID: 890-3394-3
Matrix: Solid
Date Collected: 11/03/22 14:55
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 16:18	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 16:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 16:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		11/09/22 15:29	11/12/22 16:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/09/22 15:29	11/12/22 16:18	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		11/09/22 15:29	11/12/22 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*11/09/22 15:29*	*11/12/22 16:18*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/09/22 15:29*	*11/12/22 16:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			11/14/22 12:31	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			11/09/22 12:26	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS11

Lab Sample ID: 890-3394-3
Matrix: Solid
Date Collected: 11/03/22 14:55
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 00:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 00:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*11/08/22 13:32*	*11/09/22 00:16*	*1*
o-Terphenyl	*108*		*70 - 130*	*11/08/22 13:32*	*11/09/22 00:16*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**14.4**		5.01		mg/Kg			11/11/22 13:07	1

Client Sample ID: SS12

Lab Sample ID: 890-3394-4
Matrix: Solid
Date Collected: 11/03/22 15:00
Date Received: 11/04/22 13:10
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 16:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 16:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 16:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 16:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/09/22 15:29	11/12/22 16:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/09/22 15:29	11/12/22 16:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*11/09/22 15:29*	*11/12/22 16:44*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*11/09/22 15:29*	*11/12/22 16:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			11/14/22 12:31	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			11/09/22 12:26	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		11/08/22 13:32	11/09/22 00:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 00:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*11/08/22 13:32*	*11/09/22 00:37*	*1*
o-Terphenyl	*95*		*70 - 130*	*11/08/22 13:32*	*11/09/22 00:37*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS12

Lab Sample ID: 890-3394-4

Date Collected: 11/03/22 15:00
Matrix: Solid
Date Received: 11/04/22 13:10
Sample Depth: 0.5

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13.4		5.00		mg/Kg			11/11/22 13:14	1

Surrogate Summary

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

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)
890-3392-A-1-C MS	Matrix Spike	95	111
890-3392-A-1-D MSD	Matrix Spike Duplicate	89	115
890-3394-1	SS09	93	103
890-3394-2	SS10	90	106
890-3394-3	SS11	95	109
890-3394-4	SS12	94	112
LCS 880-39138/1-A	Lab Control Sample	93	112
LCSD 880-39138/2-A	Lab Control Sample Dup	108	112
MB 880-39022/5-A	Method Blank	60 S1-	99
MB 880-39138/5-A	Method Blank	59 S1-	99

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)
890-3393-A-1-C MS	Matrix Spike	88	85
890-3393-A-1-D MSD	Matrix Spike Duplicate	95	90
890-3394-1	SS09	89	96
890-3394-2	SS10	106	116
890-3394-3	SS11	98	108
890-3394-4	SS12	91	95
LCS 880-39001/2-A	Lab Control Sample	109	119
LCSD 880-39001/3-A	Lab Control Sample Dup	100	108
MB 880-39001/1-A	Method Blank	99	114

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-39022/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39022

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/08/22 15:10	11/11/22 18:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/08/22 15:10	11/11/22 18:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/08/22 15:10*	*11/11/22 18:42*	*1*

Lab Sample ID: MB 880-39138/5-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39138

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/09/22 15:29	11/12/22 08:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/09/22 15:29	11/12/22 08:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/09/22 15:29*	*11/12/22 08:23*	*1*

Lab Sample ID: LCS 880-39138/1-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09491		mg/Kg		95	70 - 130		
Toluene			0.100	0.09455		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.08730		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1927		mg/Kg		96	70 - 130		
o-Xylene			0.100	0.09563		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08952		mg/Kg		90	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

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

Lab Sample ID: LCSD 880-39138/2-A
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39138

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09075		mg/Kg		91	70 - 130	4	35
Ethylbenzene			0.100	0.08974		mg/Kg		90	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2057		mg/Kg		103	70 - 130	7	35
o-Xylene			0.100	0.1104		mg/Kg		110	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-3392-A-1-C MS
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.08927		mg/Kg		89	70 - 130
Toluene	<0.00201	U	0.100	0.08382		mg/Kg		83	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.07488		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1635		mg/Kg		81	70 - 130
o-Xylene	<0.00201	U	0.100	0.08493		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3392-A-1-D MSD
Matrix: Solid
Analysis Batch: 39343

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39138

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	0.07916		mg/Kg		80	70 - 130	12	35
Toluene	<0.00201	U	0.0990	0.07843		mg/Kg		79	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.0990	0.07188		mg/Kg		73	70 - 130	4	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1570		mg/Kg		79	70 - 130	4	35
o-Xylene	<0.00201	U	0.0990	0.08045		mg/Kg		81	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

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

Lab Sample ID: MB 880-39001/1-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39001

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		11/08/22 13:32	11/08/22 20:25	1

QC Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-39001/1-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39001

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		11/08/22 13:32	11/08/22 20:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 20:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*
o-Terphenyl	*114*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*

Lab Sample ID: LCS 880-39001/2-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39001

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	972.6		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1026		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: LCSD 880-39001/3-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39001

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	826.3		mg/Kg		83	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	911.4		mg/Kg		91	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-3393-A-1-C MS
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39001

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	997	946.6		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	808.4		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

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

Lab Sample ID: 890-3393-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38944 — **Prep Batch: 39001**

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	999	1139		mg/Kg		111	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	855.3		mg/Kg		86	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38850/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39147

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/11/22 09:47	1

Lab Sample ID: LCS 880-38850/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39147

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.1		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-38850/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39147

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	257.1		mg/Kg		103	90 - 110	2	20

Lab Sample ID: 890-3392-A-8-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39147

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	16.2		250	286.8		mg/Kg		108	90 - 110		

Lab Sample ID: 890-3392-A-8-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 39147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	16.2		250	282.5		mg/Kg		107	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

GC VOA

Prep Batch: 39022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39022/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 39138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	5035	
890-3394-2	SS10	Total/NA	Solid	5035	
890-3394-3	SS11	Total/NA	Solid	5035	
890-3394-4	SS12	Total/NA	Solid	5035	
MB 880-39138/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 39343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	8021B	39138
890-3394-2	SS10	Total/NA	Solid	8021B	39138
890-3394-3	SS11	Total/NA	Solid	8021B	39138
890-3394-4	SS12	Total/NA	Solid	8021B	39138
MB 880-39022/5-A	Method Blank	Total/NA	Solid	8021B	39022
MB 880-39138/5-A	Method Blank	Total/NA	Solid	8021B	39138
LCS 880-39138/1-A	Lab Control Sample	Total/NA	Solid	8021B	39138
LCSD 880-39138/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	39138
890-3392-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	39138
890-3392-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	39138

Analysis Batch: 39480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	Total BTEX	
890-3394-2	SS10	Total/NA	Solid	Total BTEX	
890-3394-3	SS11	Total/NA	Solid	Total BTEX	
890-3394-4	SS12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	8015B NM	39001
890-3394-2	SS10	Total/NA	Solid	8015B NM	39001
890-3394-3	SS11	Total/NA	Solid	8015B NM	39001
890-3394-4	SS12	Total/NA	Solid	8015B NM	39001
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015B NM	39001
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39001
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39001
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	39001
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39001

Prep Batch: 39001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

GC Semi VOA (Continued)

Prep Batch: 39001 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-2	SS10	Total/NA	Solid	8015NM Prep	
890-3394-3	SS11	Total/NA	Solid	8015NM Prep	
890-3394-4	SS12	Total/NA	Solid	8015NM Prep	
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Total/NA	Solid	8015 NM	
890-3394-2	SS10	Total/NA	Solid	8015 NM	
890-3394-3	SS11	Total/NA	Solid	8015 NM	
890-3394-4	SS12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Soluble	Solid	DI Leach	
890-3394-2	SS10	Soluble	Solid	DI Leach	
890-3394-3	SS11	Soluble	Solid	DI Leach	
890-3394-4	SS12	Soluble	Solid	DI Leach	
MB 880-38850/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38850/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38850/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3392-A-8-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3392-A-8-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 39147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3394-1	SS09	Soluble	Solid	300.0	38850
890-3394-2	SS10	Soluble	Solid	300.0	38850
890-3394-3	SS11	Soluble	Solid	300.0	38850
890-3394-4	SS12	Soluble	Solid	300.0	38850
MB 880-38850/1-A	Method Blank	Soluble	Solid	300.0	38850
LCS 880-38850/2-A	Lab Control Sample	Soluble	Solid	300.0	38850
LCSD 880-38850/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38850
890-3392-A-8-B MS	Matrix Spike	Soluble	Solid	300.0	38850
890-3392-A-8-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38850

Lab Chronicle

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS09

Date Collected: 11/03/22 14:45
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3394-1
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			5.02 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 15:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39480	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39106	11/09/22 12:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/08/22 23:34	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 12:53	CH	EET MID

Client Sample ID: SS10

Date Collected: 11/03/22 14:50
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3394-2
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			5.03 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 15:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39480	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39106	11/09/22 12:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/08/22 23:55	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 13:00	CH	EET MID

Client Sample ID: SS11

Date Collected: 11/03/22 14:55
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3394-3
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			5.01 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 16:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39480	11/14/22 12:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			39106	11/09/22 12:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/09/22 00:16	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 13:07	CH	EET MID

Client Sample ID: SS12

Date Collected: 11/03/22 15:00
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3394-4
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			5.02 g	5 mL	39138	11/09/22 15:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	39343	11/12/22 16:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39480	11/14/22 12:31	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU PERMIAN 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Client Sample ID: SS12

Date Collected: 11/03/22 15:00
Date Received: 11/04/22 13:10

Lab Sample ID: 890-3394-4

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			39106	11/09/22 12:26	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/09/22 00:37	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38850	11/07/22 10:43	KS	EET MID
Soluble	Analysis	300.0		1			39147	11/11/22 13:14	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 180 FLOWLINE

Job ID: 890-3394-1
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	T104704400-22-24	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 180 FLOWLINE

Job ID: 890-3394-1
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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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 180 FLOWLINE

Job ID: 890-3394-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3394-1	SS09	Solid	11/03/22 14:45	11/04/22 13:10	0.5
890-3394-2	SS10	Solid	11/03/22 14:50	11/04/22 13:10	0.5
890-3394-3	SS11	Solid	11/03/22 14:55	11/04/22 13:10	0.5
890-3394-4	SS12	Solid	11/03/22 15:00	11/04/22 13:10	0.5

eurofins Environment Testing Xenco

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: _____

www.xenco.com Page 1 of 1

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

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 180 Flowline	Turn Around	
Project Number:	03D2057039	☑ Routine ☐ Rush	
Project Location:	Lea County, NM	Due Date:	
Sampler's Name:	Conner Shore	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:	Thm009
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.0
Total Containers:		Corrected Temperature:	3.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS09	s	11.03.22	1445	0.5'	G	1		x	x	x
SS10	s	11.03.22	1450	0.5'	G	1		x	x	x
SS11	s	11.03.22	1455	0.5'	G	1		x	x	x
SS12	s	11.03.22	1500	0.5'	G	1		x	x	x

ANALYSIS REQUEST — Parameters

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_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 Comments

11.03.22

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	Clar Cruz	11.4.22 1310	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020 2

Eurofins Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone: 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-1011 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Jessica Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3394-1
Address: 1211 W Florida Ave	Due Date Requested: 11/10/2022			
City: Midland	TAT Requested (days):			
State Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: SEMU PERMIAN 180 FLOWLINE	Project #: 89000094			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M - Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
SS09 (890-3394-1)	11/3/22	14 45 Mountain		Solid			X	X	X	X	X	1	
SS10 (890-3394-2)	11/3/22	14 50 Mountain		Solid			X	X	X	X	X	1	
SS11 (890-3394-3)	11/3/22	14 55 Mountain		Solid			X	X	X	X	X	1	
SS12 (890-3394-4)	11/3/22	15 00 Mountain		Solid			X	X	X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing South Central LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3394-1
SDG Number: Lea County NM

Login Number: 3394
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: 890-3394-1
SDG Number: Lea County NM

Login Number: 3394
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 11/07/22 09:10 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	

ENSOLUM

APPENDIX E

FINAL C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2231544488
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)* NAPP2231544488
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.56189 Longitude -103.22443
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: SEM 180	Site Type
Date Release Discovered November 3, 2022	API# *(if applicable) 30-025-39189*

Unit Letter	Section	Township	Range	County
C	23	20S	37E	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) 3.4 bbls	Volume Recovered (bbls) 0 bbls
☐ Produced Water	Volume Released (bbls)	Volume Recovered (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 overspray was caused by a flowline leak resulting in a non-reportable release. The overspray occurred off pad. The source of the release has been stopped and the impacted area has been secured. The C-141 is being used to document and close out the remediation process. Initial response efforts have been completed.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231544488
District RP	
Facility ID	
Application ID	

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: ___11/10/2022_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: ___11/14/2022__

NAPP2231544488

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					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle B					0.01	0.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
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):	**0.00**	**0.00**	**0.00**

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 Water in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)
Rectangle A	308.0	113.0	0.0	0.1	0.01	34804.0	20.7	1.7	0.02	1.6
Rectangle B	400.0	90.0	0.0	0.1	0.01	36000.0	21.4	1.7	0.02	1.7
Rectangle C					0.01	0.0	0.0	0.0	0.00	0.0
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):	**3.36**	**0.03**	**3.33**

TOTAL RELEASE VOLUME (bbls):	**3.4**

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 158191

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 158191
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	11/14/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231544488
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?	>100 (ft 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	NAPP2231544488
District RP	
Facility ID	
Application ID	

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

Printed Name: ___Bryce Wagoner_____ Title: _Permian HSE Specialist II_____

Signature:_____ Date: __11/28/2022_____

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

OCD Only

Received by: ___Jocelyn Harimon_____ Date: ___12/07/2022___

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State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231544488
District RP	
Facility ID	
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 11/28/2022

email: bryce.wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 12/07/2022

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

Closure Approved by: Jennifer Nobui Date: 01/09/2023

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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 165096

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 165096
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved.	1/9/2023