

August 7, 2023

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

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

To Whom It May Concern:

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

### SITE DESCRIPTION AND RELEASE SUMMARY

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

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

### SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

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

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

The closest continuously flowing or significant watercourse to the Site is Monument Draw, a dry wash, located approximately 2.5 miles south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

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

## SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

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

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

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

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



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

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

## PROPOSED REMEDIATION WORKPLAN

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

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

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



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groundwater. As such, Maverick respectfully requests approval of this *Work Plan* for Incident Number NAPP2305453661. NMOCD notifications are provided in Appendix E and the Form C-141 is attached as Appendix F.

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

Sincerely, Ensolum, LLC

Sinée Cole

Aimee Cole Senior Managing Scientist

cc: Bryce Wagoner, Maverick Permian, LLC

Appendices:

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



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**FIGURES** 



Released to Imaging: 11/17/2023 8:55:05 AM

### Received by OCD: 8/10/2023 3:06:31 PM





# TABLE

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# **ENSOLUM**

	TABLE 1         SOIL SAMPLE ANALYTICAL RESULTS         SEMU Permian #37         Maverick Permian, LLC         Lea County, New Mexico													
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)				
NMOCD Table 1	Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000				
Assessment Soil Samples														
SS01	02/16/2023	0.5'	0.262	33.1	2,480	17,500	<997	19,980	20,000	571				
SS02	02/16/2023	0.5'	<0.198	47.0	2,600	12,200	<999	14,800	14,800	688				
SS03	02/16/2023	0.5'	0.524	110	3,800	11,900	<998	15,700	15,700	702				
				Deli	neation Soil Sam	ples								
BH01	03/20/2023	1'	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	73.2				
BH01A	03/20/2023	5'	<0.0398	<0.0797	<50.0	<50.0	<50.0	<50.0	<50.0	83.9				
BH02	03/20/2023	1'	0.108	20.6	782	3010	<249	3,792	3,790	948				
BH02A	03/20/2023	5'	<0.0402	<0.0805	<50.0	<50.0	<50.0	<50.0	<50.0	1,350				
BH03	03/20/2023	1'	<0.0403	<0.0806	<50.0	54.3	<50.0	54	54.3	180				
BH03A	03/20/2023	5'	<0.0398	<0.0797	<49.9	260	<49.9	260	260	372				
BH04	03/20/2023	1'	<0.0398	<0.0795	<49.9	<49.9	<49.9	<49.9	<49.9	49.4				
BH04A	03/20/2023	5'	<0.0399	<0.0798	<49.8	<49.8	<49.8	<49.8	<49.8	89.2				
BH05	03/20/2023	1'	<0.100	15.2	1030	7680	<498	8,710	8,710	626				
BH05A	03/20/2023	5'	<0.0398	0.117	<50.0	255	<50.0	255	255	1,950				

#### Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

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

Grey text represents samples that have been excavated



# APPENDIX A

**Referenced Well Records** 

GO

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**National Water Information System: Web Interface** 

**USGS** Water Resources

Data Category:

**USGS Home** Contact USGS Search USGS

**Released to Imaging:** 

11/17/2023 8:55:05 AM

• Explore the NEW USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.

Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

## Search Results -- 1 sites found

Agency code = usqs

site no list =

• 323307103113601

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

## USGS 323307103113601 20S.38E.19.312141

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

**Output formats** 

Table of data

Tab-separated data

Graph of data

Reselect period

.

Date	Time	? Water- level date- time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1954-04-02		D	62610		3454.12	NGVD29	1	Z			
1954-04-02		D	62611		3455.23	NAVD88	1	Z			
1954-04-02		D	72019	78.77			1	Z			
1961-02-28		D	62610		3453.28	NGVD29	1	Z			
1961-02-28		D	62611		3454.39	NAVD88	1	Z			
1961-02-28		D	72019	79.61			1	Z			
1966-03-08		D	62610		3446.84	NGVD29	1	Z			
1966-03-08		D	62611		3447.95	NAVD88	1	Z			
1966-03-08		D	72019	86.05			1	Z			
1968-04-08		D	62610		3451.86	NGVD29	1	Z			
1968-04-08		D	62611		3452.97	NAVD88	1	Z			
1968-04-08		D	72019	81.03			1	Z			
1971-01-28		D	62610		3451.34	NGVD29	1	Z			
1971-01-28		D	62611		3452.45	NAVD88	1	Z			
1971-01-28		D	72019	81.55			1	Z			
1976-01-29		D	62610		3450.16	NGVD29	1	Z			
1976-01-29		D	62611		3451.27	NAVD88	1	Z			
1976-01-29		D	72019	82.73			1	Z			

		Explanation
Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.

Not determined Not determined
Not determined
Approved for publication Processing and review completed.

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: <u>USGS Water Data Support Team</u> Page Last Modified: 2023-08-07 11:32:11 EDT 0.29 0.26 nadww01





# WELL RECORD & LOG

# OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DII DEC 21 2022 PM3:14

PAGE 1 OF 2

WELL TAG ID NO.

	OSE POD NO. (	WELLNO	)		WELL TAC ID NO			OSE ET	LE NO	(2			
NO	L-15414-PO		)		WELL TAG ID NO			L-154		<i></i>			
GENERAL AND WELL LOCATION	WELL OWNER	. ,	AL RESOURCES					PHONE 928-24	E (OPTIO 11-186				
TT	WELL OWNER	MAILING	ADDRESS					CITY		3	STATE		ZIP
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Z	COMPLETED	WELL IS:	ARTESIAN	✓ DRY HOI	LE SHALLO	OW (UNCO	NFINED)			STATIC WATER LEV	N/A		LL (F1)
IOIT	DRILLING FLU	ЛD:	✓ AIR	MUD	ADDITIV	VES – SPEC	CIFY:						
2. DRILLING & CASING INFORMATION	DRILLING ME	THOD:	✓ ROTARY	HAMME	CABLE 1	TOOL	OTHE	R – SPEC	IFY:				
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7													
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IAL	FROM	то	DIAM. (inches)	GRA	VEL PACK SIZE	E-RANGE	E BY INTE	ERVAL		(cubic feet)		PLACEN	IENT
ANNULAR MATERIAL													
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LO	CATION					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 En	ngineer Well Number: L-15414-POD1			
Well ov	wner: MAVERICK NATURAL RESOURCES		Phone No.:	928-241-1862
Mailing	g address: 1410 NW COUNTY RD		le fe	
	IOBBS	State:	NEW MEXICO	Zip code: <u>88240</u>
<u>II. WE</u>	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugged	well: WEST T	EXAS WATER WELL S	ERVICE
2)	New Mexico Well Driller License No.: WD	# 1184	E	Expiration Date:

4) Date well plugging began: \_\_\_\_\_ Date well plugging concluded: \_\_\_\_

- 5) GPS Well Location: Latitude: <u>32</u> deg, <u>33</u> min, <u>23.46</u> sec Longitude: <u>-103</u> deg, <u>10</u> min, <u>41.55</u> sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: <u>103</u> ft below ground level (bgl), by the following manner:

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

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

OSE DII DEC 21 2022 PM3:14

Version: September 8, 2009 Page 1 of 2 10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

### For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement <u>Method</u> (tremie pipe, other)	<u>Comments</u> ("casing perforated first", "open annular space also plugged", etc.)
-					DRILL CUTTINGS WILL BE USED TO TEN FEET BELOW GROUND SERVICE AND PLUGGED USING HYDRATED BENTONITE
-					
_					
-			3.14		
_					
-					
-				OSE DII	DEC 21 2022 PM3:14
-					
		MULTIPLY	BY AND OBTAIN		
III. SIGN		cubic feet x 7 cubic yards x 201	.4805 = gallons .97 = gallons		0
Engineer p	L SOUTHERLAND ertaining to the plugging of the best of my knowledge ar	wells and that each an	that I am familiar with d all of the statements in	the rules of this Plugging	the Office of the State Record and attachments
		K	1. TXn.11	YX	

Signature of Well Driller

Date

Version: September 8, 2009 Page 2 of 2



# APPENDIX B

Photographic Log





APPENDIX C

Lithologic Soil Sampling Logs

							Sample Name: BH01	Date: 03/20/23
		N	C		LU		Site Name: SEMU Permian 37	
			J				Incident Number: nAPP2305453	661
							Job Number: 03D2057074	
	LITHOL	OGI	C / SOIL S	SAMPLING	G LOG		Logged By: Dmitry Nikanorov	Method: Hand auger
Coordinates: 3	2.556613	, -103	3.196176				Hole Diameter:~4"	Total Depth:5 ft bgs
							PID for chloride and vapor, respe factor included.	ectively. Chloride test
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
N <173	1.8	N	BH01A	1 		SP	SP, poorly graded sand, fir color, no stain, no odor	ne, yellow
N <173	0.8	Ν	BH01B	2	2	SP	SAA	
N <173	0.7	N	BH01C	3	3	SP	SAA	
N <173	0.8	Ν	BH01D	4	4	SP	SAA	
N <173	0.3	N	BH01E	5	5	SP	SAA	
				l <u>-</u>			TD at 5 ft bgs	

									Sample Name: BH02	Date: 03/20/23
				N	C	ΟΙ		М	Site Name: SEMU Permian 37	
									Incident Number: nAPP2305453	661
									Job Number: 03D2057074	
			LITHOL	OGI	C / SOIL S	SAMPLING	i LOG		Logged By: Dmitry Nikanorov	Method: Hand auger
					3.196243				Hole Diameter:~4"	Total Depth:5 ft bgs
									PID for chloride and vapor, respention for chloride and vapor, respention factor included.	ctively. Chloride test
Moisture	Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic De	escriptions
						<u> </u>	0			
						_				
N	I	1,325	1,057	Y	BH02A	1 _	_ 1	SP	SP, heavily stained fine sar	
						-	F		heavy odor, poorly graded	
		4 500	1 0 2 4		DUCCE		-	6.5	C A A	
N	'	1,508	1,034	Y	BH02B	2	2	SP	SAA	
						_	-			
N	1	1,478	1,049	Y	BH02C	3	3	SP	SAA	
						-	-			
N	,	1,928	927	Y	BH02D	4	- 4	SP	SAA	
		1,520	521	'	DIIOZD		- 7	Jr	J	
						_	-			
N	1	1,816	92.1	Y	BH02E	5	_ 5	SP	SAA, less stain, yellow colo	or
						_	-		TD at 5 ft bgs	
	_			_			_	-		
		$\overline{}$								
			$\searrow$							
						$\overline{}$				
Í								$\overline{\ }$		
Í									$\searrow$	
Í										
Í										
										$\overline{}$
										$\sim$
										$\sim$

							Sample Name: BH03	Date: 03/20/23
			C					, ,
			3				Incident Number: nAPP2305453	661
							Job Number: 03D2057074	
	LITHOL	.OGI		AMPLING	LOG		Logged By: Dmitry Nikanorov	Method: Hand auger
rdinates:	32.556561	, -103	.196234				Hole Diameter:~4"	Total Depth:5 ft bgs
								ctively. Chloride test
Content Chloride (nnm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Do	escriptions
<173	33.5	Y	вноза	1 - - -	0  1 1	SP	Poorly graded fine sand, li stained, some odor, light b	
173	247.0	Y	внозв	2	2	SP	SAA	
<173	118.7	Y	внозс	3	3	SP	SAA	
<173	15.7	Y	BH03D	4	4	SP	SAA	
<173	21.2	Y	BH03E	5	5	SP	SAA	
					_		TD at 5 ft bgs	
$\overline{}$								
	$\overline{}$							
								$\searrow$
	Cutents: Fi ormed wi epi (Chloride (2000) <173 (2173) <173 <173	LITHOL rdinates: 32.556561 ments: Field screen ormed with 1:4 dilut tuguyo (udd -173 33.5 173 247.0 <173 118.7 <173 15.7	LITHOLOGIA         rdinates: 32.556561, -103         iments: Field screening co- ormed with 1:4 dilution fa         app (u dd)          app (u dd)	LITHOLOGIC / SOIL S         rdinates: 32.556561, -103.196234         iments: Field screening conducted word with 1:4 dilution factor of soil         and	LITHOLOGIC / SOIL SAMPLING         rdinates: 32.556561, -103.196234         imments: Field screening conducted with HACH Chlored with 1:4 dilution factor of soil to distilled with the second screening of the second screenin	LITHOLOGIC / SOIL SAMPLING LOG         rdinates: 32.556561, -103.196234         imments: Field screening conducted with HACH Chloride Test S         ormed with 1:4 dilution factor of soil to distilled water. 40% of the sector of soil to distilled water. 40% of the sector of soil to distilled water. 40% of the sector of soil to distilled water. 40% of the sector of soil to distilled water. 40% of the sector of sector of soil to distilled water. 40% of the sector of	rdinates: 32.556561, -103.196234 ments: Field screening conducted with HACH Chloride Test Strips and ormed with 1:4 dilution factor of soil to distilled water. 40% correction $1130  ext{ field gravity field gr$	ENSOLUM       Site Name: SEMU Permian 37         Incident Number: 03D2057074       Incident Number: 03D2057074         LITHOLOGIC / SOIL SAMPLING LOG       Logged By: Dmitry Nikanorov         rdinates: 32.556561, -103.196234       Hole Diameter:~4"         ments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, resperormed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.         Image: Sample of the sample of th

							Sample Name: BH04	Date: 03/20/23					
			C	ΟΙ		R A	Site Name: SEMU Permian 37						
			3				Incident Number: nAPP2305453661						
							Job Number: 03D2057074						
	LITHOL	OGIO	C / SOIL S	AMPLING	LOG		Logged By: Dmitry Nikanorov	Method: Hand auger					
Coordinates: 3	2.556548,	-103	196149				Hole Diameter:~4"	Total Depth:5 ft bgs					
		-					PID for chloride and vapor, respe factor included.	ctively. Chloride test					
Moisture Content Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions					
N <173	3.7	N	BH04			SP	Poorly graded fine sand, li brown color, no stain, littl						
N <173	2.4	Ν	BH04	2	2	SP	SAA						
N <173	4.0	N	BH04	3	3	SP	SAA						
N <173	6.4	N	BH04	4	4	SP	SAA						
N <173	1.1	N	BH04	5	5	SP	SAA						
					_		TD at 5 ft bgs						

								Sample Name: BH05	Date: 03/20/23
			N	C	ΟΙ		<b>N</b> A	Site Name: SEMU Permian 37	
				3		- 0		Incident Number: nAPP2305453	8661
								Job Number: 03D2057074	
		LITHOL	OGIO	C / SOIL S	AMPLING	LOG		Logged By: Dmitry Nikanorov	Method: Hand auger
		2.556406,						Hole Diameter:~4"	Total Depth:5 ft bgs
			-					PID for chloride and vapor, respe factor included.	ctively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
N	202	627.3	Y	BH05	1 - 1 -	0 - - - - -	SP	Poorly graded fine sand, h heavy odor	neavily stained,
N	416	574.7	Y	BH05	2	2	SP	SAA	
N	398	431.2	Y	BH05	3	- - 3 -	SP	SAA	
N	576	178.4	Y	BH05	4	- - 4 -	SP	SAA	
N	576	62.1	Y	BH05	5	- 5	SP	SAA TD at 5 ft bgs	



# APPENDIX D

Laboratory Analytical Reports

Received by OCD: 8/10/2023 3:06:31 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Josh Adams Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 2/24/2023 2:03:25 PM

# JOB DESCRIPTION

SEMU Permian 37 SDG NUMBER 03D2057074

# **JOB NUMBER**

890-4122-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information,

Received by OCD: 8/10/2023 3:06:31 PM

1

# **Eurofins Carlsbad**

Job Notes

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

# Authorization

RAMER

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

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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Sample Summary	19
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served by OCL	<i>J: 8/10/2023 3:00:31 PM</i>	, 0j 91
	Definitions/Glossary	
Client: Ensolun		
Project/Site: SF	EMU Permian 37 SDG: 03D20570	74
Qualifiers		- 3
GC VOA		
Qualifier	Qualifier Description	4
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	5
GC Semi VOA		
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	_
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	8
U	Indicates the analyte was analyzed for but not detected.	_
Glossary		- 9
Abbreviation	These commonly used abbreviations may or may not be present in this report.	- 1
a	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)	4
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	
NO		

Released to Imaging: 11/17/2023 8:55:05 AM

Not Calculated

Negative / Absent

Positive / Present Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Presumptive Quality Control

Not Detected at the reporting limit (or MDL or EDL if shown)

NC

ND

NEG

POS

PQL PRES

QC RER

RL RPD

TEF

TEQ

TNTC

Eurofins Carlsbad

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

### Job ID: 890-4122-1

Client: Ensolum

### Laboratory: Eurofins Carlsbad

Project/Site: SEMU Permian 37

#### Narrative

Job Narrative 890-4122-1

#### Receipt

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

### **Receipt Exceptions**

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

### GC VOA

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

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

#### GC Semi VOA

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

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

### HPLC/IC

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

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

Lab Sample ID: 890-4122-1

# Project/Site: SEMU Permian 37 Client Sample ID: SS01

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

Sample Depth: 0.5

Client: Ensolum

Method: SW846 8021B - Volatile Orga Analyte		Qualifier	, RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.262		0.201	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Toluene	2.40		0.201	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Ethylbenzene	4.54		0.201	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
m-Xylene & p-Xylene	15.9		0.402	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
o-Xylene	9.96		0.201	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Xylenes, Total	25.9		0.402	mg/Kg		02/23/23 09:25	02/24/23 02:10	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	179	S1+	70 - 130			02/23/23 09:25	02/24/23 02:10	10
1,4-Difluorobenzene (Surr)	98		70 - 130			02/23/23 09:25	02/24/23 02:10	100
- Method: TAL SOP Total BTEX - Total I	BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	33.1		0.402	mg/Kg			02/24/23 14:46	
- Method: SW846 8015 NM - Diesel Ran	ige Organ	ics (DRO) (	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	20000		997	mg/Kg			02/23/23 11:59	
- Method: SW846 8015B NM - Diesel Ra	ange Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics	2480		997	mg/Kg		02/22/23 16:36	02/23/23 05:15	20
(GRO)-C6-C10 Diesel Range Organics (Over	17500		997	mg/Kg		02/22/23 16:36	02/23/23 05:15	2
C10-C28) Oll Range Organics (Over C28-C36)	<997	U	997	mg/Kg		02/22/23 16:36	02/23/23 05:15	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	396	S1+	70 - 130			02/22/23 16:36	02/23/23 05:15	2
o-Terphenyl	542	S1+	70 - 130			02/22/23 16:36	02/23/23 05:15	2
- Method: EPA 300.0 - Anions, Ion Chro	matograp	hy - Solub	le					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	571		4.96	mg/Kg			02/21/23 18:03	
Client Sample ID: SS02						Lab San	nple ID: 890-	4122-2
Date Collected: 02/16/23 14:05							Matri	x: Solic
Date Received: 02/17/23 08:18								
Sample Depth: 0.5								
- Method: SW846 8021B - Volatile Orga	nic Comp	ounds (GC	)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.198	U	0.198	mg/Kg		02/23/23 09:25	02/24/23 02:31	100
Toluene	4.86		0.198	mg/Kg		02/23/23 09:25	02/24/23 02:31	10
Ethylbenzene	5.59		0.198	mg/Kg		02/23/23 09:25	02/24/23 02:31	10
m-Xylene & p-Xylene	24.8		0.396	mg/Kg		02/23/23 09:25	02/24/23 02:31	10
o-Xylene	11.7		0.198	mg/Kg		02/23/23 09:25	02/24/23 02:31	10
Xylenes, Total	36.5		0.396	mg/Kg		02/23/23 09:25	02/24/23 02:31	10
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
A Bromofluorobenzene (Surr)		<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	70 120			02/22/22 00:25	02/24/22 02:21	10

4-Bromofluorobenzene (Surr)

Eurofins Carlsbad

02/23/23 09:25 02/24/23 02:31

r uge 54 0f 5

Matrix: Solid

5

Released to Imaging: 11/17/2023 8:55:05 AM

70 - 130

200 S1+

100

## **Client Sample Results**

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

Matrix: Solid

5

Lab Sample ID: 890-4122-2

## Client Sample ID: SS02

Project/Site: SEMU Permian 37

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

Sample Depth: 0.5

Client: Ensolum

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

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130			02/23/23 09:25	02/24/23 02:31	100
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	47.0		0.396	mg/Kg			02/24/23 14:46	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	14800		999	mg/Kg			02/23/23 11:59	
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	2600		999	mg/Kg		02/22/23 16:36	02/23/23 05:36	20
Diesel Range Organics (Over C10-C28)	12200		999	mg/Kg		02/22/23 16:36	02/23/23 05:36	2
Oll Range Organics (Over C28-C36)	<999	U	999	mg/Kg		02/22/23 16:36	02/23/23 05:36	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane		S1+	70 - 130			02/22/23 16:36	02/23/23 05:36	2
o-Terphenyl	395	S1+	70 - 130			02/22/23 16:36	02/23/23 05:36	2
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	688		4.98	mg/Kg			02/21/23 18:09	

### Client Sample ID: SS03

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

Lab Sample ID: 890-4122-3 Matrix: Solid

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.524		0.200	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Toluene	19.7		0.200	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Ethylbenzene	22.1		0.200	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
m-Xylene & p-Xylene	43.8		0.399	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
o-Xylene	23.8		0.200	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Xylenes, Total	67.6		0.399	mg/Kg		02/23/23 09:25	02/24/23 02:51	100
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	267	S1+	70 - 130			02/23/23 09:25	02/24/23 02:51	100
1,4-Difluorobenzene (Surr)	102		70 - 130			02/23/23 09:25	02/24/23 02:51	100
- Method: TAL SOP Total BTEX	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	110		0.399	mg/Kg			02/24/23 14:46	1
Method: SW846 8015 NM - Die	esel Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	15700		998	mg/Kg			02/23/23 11:59	1

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# **Client Sample Results**

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

Matrix: Solid

5

Lab Sample ID: 890-4122-3

## Client Sample ID: SS03

Project/Site: SEMU Permian 37

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

## Sample Depth: 0.5

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	3800		998	mg/Kg		02/22/23 16:36	02/23/23 05:58	20
Diesel Range Organics (Over C10-C28)	11900		998	mg/Kg		02/22/23 16:36	02/23/23 05:58	20
Oll Range Organics (Over C28-C36)	<998	U	998	mg/Kg		02/22/23 16:36	02/23/23 05:58	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	309	S1+	70 - 130			02/22/23 16:36	02/23/23 05:58	20
o-Terphenyl	398	S1+	70 - 130			02/22/23 16:36	02/23/23 05:58	20
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
					_	_		
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client: Ensolum Project/Site: SEMU Permian 37

### Method: 8021B - Volatile Organic Compounds (GC) Matrix: Solid

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

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

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

### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

6

Job ID: 890-4122-1

SDG: 03D2057074

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: SEMU Permian 37

Client: Ensolum

# **QC Sample Results**

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

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

Lab Sample ID: MB 880-4700									Short Od	mple ID: Meth		
Matrix: Solid										Prep Type:		
Analysis Batch: 47000		в мв								Prep Bate	cn: 47	00
Analyte		lt Qualifier	RL		Unit		D	D,	repared	Analyzed	Dil	Fa
Benzene	<0.0020		0.00200		0111 mg/K	ία.	_		3/23 08:38	02/23/23 11:47		Ta
Toluene	<0.0020		0.00200		mg/K				3/23 08:38	02/23/23 11:47		
Ethylbenzene	<0.0020		0.00200		mg/K	-			3/23 08:38	02/23/23 11:47		
m-Xylene & p-Xylene	<0.0020		0.00200		mg/K				3/23 08:38	02/23/23 11:47		
o-Xylene	<0.0040		0.00400		mg/K	-			3/23 08:38	02/23/23 11:47		
Xylenes, Total	<0.0020		0.00200		mg/K	-			3/23 08:38	02/23/23 11:47		
Ayleries, Total	~0.0040	0 0	0.00400		iiig/N	.y		02/2	5/25 00.50	02/23/23 11.47		
	М	B MB										
Surrogate	%Recover	y Qualifier	Limits					Pı	repared	Analyzed	Dil	Fa
4-Bromofluorobenzene (Surr)	7	6	70 - 130					02/2	3/23 08:38	02/23/23 11:47		
1,4-Difluorobenzene (Surr)	8	7	70 - 130					02/2	3/23 08:38	02/23/23 11:47		
Lab Sample ID: MB 880-4700	)7/5-A								Client Sa	mple ID: Meth	od Bla	an
Matrix: Solid										Prep Type:	Total/	/N
Analysis Batch: 47000										Prep Bate	ch: 47	00
-	м	в мв										
Analyte	Resu	It Qualifier	RL		Unit		D	Pr	repared	Analyzed	Dil	Fa
Benzene	<0.0020	0 U	0.00200		mg/K	(g	_	02/23	3/23 09:25	02/23/23 23:25		
Toluene	<0.0020		0.00200		mg/K	۔ رو		02/23	3/23 09:25	02/23/23 23:25		
Ethylbenzene	<0.0020	0 U	0.00200		mg/K	-		02/23	3/23 09:25	02/23/23 23:25		
m-Xylene & p-Xylene	<0.0040	0 U	0.00400		mg/K			02/23	3/23 09:25	02/23/23 23:25		
o-Xylene	<0.0020		0.00200		mg/K	-			3/23 09:25	02/23/23 23:25		
Xylenes, Total	<0.0040		0.00400		mg/K	-			3/23 09:25	02/23/23 23:25		
					5	5						
		B MB										
Surrogate	%Recover	<u> </u>	Limits						repared	Analyzed	Dil	Fa
4-Bromofluorobenzene (Surr)		8	70 - 130						3/23 09:25	02/23/23 23:25		
1,4-Difluorobenzene (Surr)	ç	4	70 - 130					02/2	3/23 09:25	02/23/23 23:25		
Lab Sample ID: LCS 880-470	07/1-4						С	lient	Sample	D: Lab Contro	l Sam	ınl
Matrix: Solid							Ŭ	liont	Campio	Prep Type:		- C
Analysis Batch: 47000										Prep Bate		
			Spike	LCS	LCS					%Rec		
Analyte			Added		Qualifier	Unit		D	%Rec	Limits		
Benzene			0.100	0.09393		_ mg/Kg		. <u>-</u>	94	70 - 130		
Toluene			0.100	0.09350		mg/Kg			93	70 - 130		
Ethylbenzene			0.100	0.1024		mg/Kg			102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2149		mg/Kg			102	70 - 130		
o-Xylene			0.200	0.2149		mg/Kg			118	70 - 130		
0-Aylene			0.100	0.1170		iiig/Kg			110	70 - 130		
	LCS LC											
Surrogate	%Recovery Q	alifier	Limits									
4-Bromofluorobenzene (Surr)	122		70 - 130									
1,4-Difluorobenzene (Surr)	100		70 - 130									
Lab Sample ID: LCSD 880-4	7007/2-A					Cli	ent	Sam	ple ID: La	ab Control Sa	-	
Matrix: Solid										Prep Type:		
Analysia Rotaby 47000										Prep Bate	ch: 47	00
Analysis Batch: 47000												
Analysis Batch: 47000			Spike	LCSD	LCSD					%Rec		RP

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Client: Ensolum Project/Site: SEMU Permian 37 Job ID: 890-4122-1 SDG: 03D2057074

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

Matrix: Solid	7007/2-A					Clie	nt San	nple ID:	Lab Contro	l Sampl ype: To	
Analysis Batch: 47000										Batch:	
Analysis Batch. 47000			Spike	1.050	LCSD				%Rec	Datch.	RPC
Analyte			Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Toluene			0.100	0.08564		mg/Kg		86	70 - 130	9	35
Ethylbenzene			0.100	0.09059		mg/Kg		91	70 - 130	12	3
m-Xylene & p-Xylene			0.200	0.1900		mg/Kg		95	70 - 130	12	3
o-Xylene			0.100	0.09988		mg/Kg		100	70 - 130	16	3
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)			70 - 130								
1,4-Difluorobenzene (Surr)	104		70 - 130								
Analysis Batch: 47000									Prep	Batch:	4700
Analysis Batch: 47000									Prep	Batch:	47007
	Sample		Spike		MS				Prep %Rec	Batch:	47007
Analyte	Result	Qualifier	Added	Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	Batch:	47007
Analyte Benzene	Result <0.00200	Qualifier U	Added	<b>Result</b> 0.09590		mg/Kg	D	96	%Rec Limits 70 - 130	Batch:	4700
Analyte Benzene Toluene	Result           <0.00200	Qualifier U U	Added           0.100           0.100	<b>Result</b> 0.09590 0.09571		mg/Kg mg/Kg	D_		%Rec Limits 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene	Result <0.00200 <0.00200 <0.00200	Qualifier U U U	Added 0.100 0.100 0.100	Result 0.09590 0.09571 0.1007		mg/Kg mg/Kg mg/Kg	<u> </u>	96	%Rec Limits 70 - 130 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Result           <0.00200	Qualifier U U U U	Added 0.100 0.100 0.100 0.201	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg	<u> </u>	96 94 99 102	%Rec Limits 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Result <0.00200 <0.00200 <0.00200	Qualifier U U U U	Added 0.100 0.100 0.100	Result 0.09590 0.09571 0.1007		mg/Kg mg/Kg mg/Kg	<u> </u>	96 94 99	%Rec Limits 70 - 130 70 - 130 70 - 130	Batch:	47007
Analyte Benzene	Result           <0.00200	Qualifier U U U U	Added 0.100 0.100 0.100 0.201	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg	<u>D</u>	96 94 99 102	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene	Result <0.00200 <0.00200 <0.00200 <0.00399 <0.00200	Qualifier U U U U U U MS	Added 0.100 0.100 0.100 0.201	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg	<u>D</u>	96 94 99 102	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate	Result <0.00200 <0.00200 <0.00200 <0.00399 <0.00200	Qualifier U U U U U U MS	Added 0.100 0.100 0.100 0.201 0.100	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg	<u> </u>	96 94 99 102	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	Batch:	47007
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene	Result           <0.00200	Qualifier U U U U U U MS	Added 0.100 0.100 0.201 0.100 Limits	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg	<u>D</u>	96 94 99 102	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130	Batch:	4700
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr)	Result           <0.00200	Qualifier U U U U U U MS	Added 0.100 0.100 0.201 0.100 <u>Limits</u> 70 - 130	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg		96 94 99 102 105	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130		
Analyte Benzene Toluene Ethylbenzene m-Xylene & p-Xylene o-Xylene Surrogate 4-Bromofluorobenzene (Surr)	Result           <0.00200	Qualifier U U U U U U MS	Added 0.100 0.100 0.201 0.100 <u>Limits</u> 70 - 130	Result 0.09590 0.09571 0.1007 0.2081		mg/Kg mg/Kg mg/Kg mg/Kg		96 94 99 102 105	%Rec Limits 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130 70 - 130		blicate

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0990	0.08695		mg/Kg		88	70 - 130	10	35
Toluene	<0.00200	U	0.0990	0.08891		mg/Kg		89	70 - 130	7	35
Ethylbenzene	<0.00200	U	0.0990	0.09431		mg/Kg		94	70 - 130	7	35
m-Xylene & p-Xylene	<0.00399	U	0.198	0.1968		mg/Kg		98	70 - 130	6	35
o-Xylene	<0.00200	U	0.0990	0.09940		mg/Kg		99	70 - 130	7	35
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	115		70 - 130								

#### 1,4-Difluorobenzene (Surr) 96 Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-46977/1-A Matrix: Solid						Client Sa	mple ID: Metho Prep Type: <sup>-</sup>	
Analysis Batch: 46917							Prep Batcl	n: <b>46977</b>
-	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		02/22/23 16:36	02/22/23 21:03	1
(GRO)-C6-C10								

70 - 130

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Lab Sample ID: MB 880-46977/1-A

### C Sampla Baculta

Client: Ensolum Project/Site: SEMU Permian 37

Matrix: Solid

Analyte

C10-C28)

Surrogate 1-Chlorooctane

o-Terphenyl

Analyte

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

Matrix: Solid

Analysis Batch: 46917

Gasoline Range Organics (GRO)-C6-C10

Diesel Range Organics (Over

Analysis Batch: 46917

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

Lab Sample ID: LCS 880-46977/2-A

Lab Sample ID: LCSD 880-46977/3-A

### Method: 8015B NM - Diesel Range Organi

		Q	C Sample F	Resul	ts							
										Job ID: 890		
										SDG: 03D2	2057074	
Range O	rgar	nics (DR	(GC) (Co	ntinue	ed)							
									Ollow t O		- Diamia	
-A									Client Sa	ample ID: Metho Prep Type: 1		
										Prep Type: Prep Batch		
	мв	мв								Fiep Date	1. 40311	5
F		Qualifier	RL		Unit		D	Р	repared	Analyzed	Dil Fac	
	<50.0	U	50.0		mg/Kg	 g	_		2/23 16:36	02/22/23 21:03	1	
					-	-						
	<50.0	U	50.0		mg/Ko	g		02/2	2/23 16:36	02/22/23 21:03	1	7
	МВ	МВ										
%Rec	overy		Limits					P	repared	Analyzed	Dil Fac	9
	126		70 - 130						2/23 16:36		1	0
	127		70 - 130					02/2	2/23 16:36	02/22/23 21:03	1	Q
												3
2-A							C	lient	Sample	ID: Lab Control		
										Prep Type: 1		
			Spike	LCS	1.00					Prep Batch %Rec	n: 46977	
			Added		Qualifier	Unit		D	%Rec	%Rec		
			1000	832.8		mg/Kg				70 - 130		
			1000	002.0		119/119			00	101100		
			1000	815.4		mg/Kg			82	70 - 130		13
LCS	LCS											
%Recovery			Limits									
98			70 - 130									
88			70 - 130									
								_				
7/ <b>3-A</b>						CI	ient	Sam	iple ID: L	ab Control Sam	ple Dup	

Matrix: Solid			
Analysis Batch: 46917			
	Sp	ike	L
Analyte	Ado	led	Re

### Prep Type: Total/NA Pren Batch: 46977

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Analysis Datch. 40317							гіер	Datch.	40311
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	878.3		mg/Kg		88	70 - 130	5	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	830.0		mg/Kg		83	70 - 130	2	20
C10-C28)									

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

Lab Sample ID: 890-4153-A-1-G MS	
Matrix: Solid	
Analysis Ratch: 46047	

Analysis Batch: 46917									Pre	p Batch: 46977
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<50.0	U	998	860.3		mg/Kg		84	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	59.4		998	1043		mg/Kg		99	70 - 130	
C10-C28)										

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

Client: Ensolum Project/Site: SEMU Permian 37 Page 39 of 91

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

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

Matrix: Solid	1-H MSD								): Matrix Sp Prep 1	Туре: То	
Analysis Batch: 46917										Batch:	
Analysis Baten. 405 m	Sample	Sample	Spike	MSD	MSD				%Rec	, Baton.	RPD
Analyte	-	Qualifier	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Gasoline Range Organics	<50.0		997	988.5		mg/Kg		97	70 - 130	14	2
(GRO)-C6-C10	-00.0	0	001	000.0		ilig/itg		01	10-100		2.
Diesel Range Organics (Over C10-C28)	59.4		997	883.4		mg/Kg		83	70 - 130	17	2
	MSD	MED									
Surrogata		Qualifier	Limits								
Surrogate 1-Chlorooctane	%Recovery 	Quanner -	70 - 130								
o-Terphenyl	89		70 - 130 70 - 130								
lethod: 300.0 - Anions, l Lab Sample ID: MB 880-4682 Matrix: Solid		ography						Client S	Sample ID: Prep	Method Type: S	
Analysis Batch: 46871											
		MB MB									
Analyte	R	esult Qualifier		RL	Unit		) F	repared	Analyz	zed	Dil Fa
Chloride	<	<5.00 U		5.00	mg/K	g			02/21/23	15:17	
										Type: S	
Analysis Batch: 46871			Spike Added		LCS Qualifier	Unit	D	%Rec	%Rec	.,,	
Analysis Batch: 46871			Spike Added 250		LCS Qualifier	Unit mg/Kg	<u>D</u>	<b>%Rec</b> 95	-		
Analysis Batch: 46871 Analyte Chloride			Added	Result		mg/Kg		95	%Rec Limits 90 - 110		
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-40	 6828/3-A		Added	Result		mg/Kg		95	%Rec Limits 90 - 110		le Du
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-40 Matrix: Solid			Added 250	<b>Result</b> 236.5	Qualifier	mg/Kg		95	%Rec Limits 90 - 110 Lab Contro Prep	 DI Sampl	le Du olubi
Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871	6828/3-A		Added 250 Spike	Result 236.5 LCSD	Qualifier	mg/Kg Clier	nt San	95 nple ID:	%Rec Limits 90 - 110 Lab Contro Prep %Rec	ol Sampl Type: S	le Du olubi RP
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte	6828/3-A		Added 250 Spike Added	Result 236.5 LCSD Result	Qualifier	mg/Kg Clier Unit		95 nple ID:   %Rec	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits	ol Sampl Type: S RPD	le Du olubl RP Lim
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte	6828/3-A		Added 250 Spike	Result 236.5 LCSD	Qualifier	mg/Kg Clier	nt San	95 nple ID:	%Rec Limits 90 - 110 Lab Contro Prep %Rec	ol Sampl Type: S	le Du olubl RP Lim
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A-			Added 250 Spike Added	Result 236.5 LCSD Result	Qualifier	mg/Kg Clier Unit	nt San	95 nple ID: 1 %Rec 98	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	DI Sampl Type: S <u></u>	le Du olubi RP Lim 2 Spik
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid			Added 250 Spike Added	Result 236.5 LCSD Result	Qualifier	mg/Kg Clier Unit	nt San	95 nple ID: 1 %Rec 98	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID	DI Sampl Type: S 	le Du olubl RP Lim 2 Spik
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid	 1-B MS		Added 250 Spike Added 250	Result 236.5 LCSD Result 243.9	Qualifier LCSD Qualifier	mg/Kg Clier Unit	nt San	95 nple ID: 1 %Rec 98	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep	DI Sampl Type: S <u>RPD</u> 3 9: Matrix	le Du olubi RP Lim 2 Spik
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-40 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid Analysis Batch: 46871	 1-B MS Sample	Sample	Added 250 Spike Added 250 Spike	Result 236.5 LCSD Result 243.9 MS	Qualifier LCSD Qualifier MS	mg/Kg Clier Unit mg/Kg	D	95 nple ID:   %Rec 98 Client	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec	DI Sampl Type: S <u>RPD</u> 3 9: Matrix	le Du olubi RP Lim 2 Spik
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-40 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid Analysis Batch: 46871 Analyte	 1-B MS Sample	Qualifier	Added 250 Spike Added 250	Result 236.5 LCSD Result 243.9 MS	Qualifier LCSD Qualifier	Unit	nt San	95 nple ID: 1 %Rec 98	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep	DI Sampl Type: S <u>RPD</u> 3 9: Matrix	le Du olubl RP Lim 2 Spik
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A-	1-B MS Sample Result <4.97	Qualifier	Added 250 Spike Added 250 Spike Added	Result 236.5 LCSD Result 243.9 MS Result	Qualifier LCSD Qualifier MS	Unit Unit mg/Kg	D	95 nple ID: 1 %Rec 98 Client %Rec 95	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ol Sampl Type: S <u>RPD</u> 3 0: Matrix Type: S	le Du olubi RP Lim 2 Spik olubi
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid	1-B MS Sample Result <4.97	Qualifier	Added 250 Spike Added 250 Spike Added	Result 236.5 LCSD Result 243.9 MS Result	Qualifier LCSD Qualifier MS	Unit Unit mg/Kg	D	95 nple ID: 1 %Rec 98 Client %Rec 95	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ol Sampl Type: S <u>RPD</u> 3 9: Matrix Type: S 	le Du olubi RP Lim 2 Spik olubi
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid	1-B MS Sample Result <4.97	Qualifier	Added 250 Spike Added 250 Spike Added	Result 236.5 LCSD Result 243.9 MS Result 240.7	Qualifier LCSD Qualifier MS	Unit Unit mg/Kg	D	95 nple ID: 1 %Rec 98 Client %Rec 95	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110	ol Sampl Type: S <u>RPD</u> 3 9: Matrix Type: S 	le Du olubi RP Lim 2 Spik olubi
Analysis Batch: 46871 Analyte Chloride Lab Sample ID: LCSD 880-44 Matrix: Solid Analysis Batch: 46871 Analyte Chloride Lab Sample ID: 890-4120-A- Matrix: Solid	1-B MS Sample Result <4.97 1-C MSD Sample	Qualifier	Added 250 Spike Added 250 Spike Added 249	Result 236.5 LCSD Result 243.9 MS Result 240.7	Qualifier LCSD Qualifier MS Qualifier	Unit Unit mg/Kg	D	95 nple ID: 1 %Rec 98 Client %Rec 95	%Rec Limits 90 - 110 Lab Contro Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 0: Matrix Sp Prep	ol Sampl Type: S <u>RPD</u> 3 9: Matrix Type: S 	le Du olubl RP Lim 2 Spik olubl

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

**GC VOA** 

#### Analysis Batch: 47000

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

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

#### Prep Batch: 47007

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

#### Analysis Batch: 47193

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

### GC Semi VOA

#### Analysis Batch: 46917

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

#### Prep Batch: 46977

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

Client: Ensolum Project/Site: SEMU Permian 37

### GC Semi VOA (Continued)

### Prep Batch: 46977 (Continued)

Lab Sample ID LCSD 880-46977/3-A	Client Sample ID Lab Control Sample Dup	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
890-4153-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4153-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	
Analysis Batch: 47032					
	Client Comple ID	Dren Tune	Matrix	Mathad	Dren Detek

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

#### HPLC/IC

#### Leach Batch: 46828

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

#### Analysis Batch: 46871

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

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8

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

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9

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

### Lab Sample ID: 890-4122-1 Matrix: Solid

Lab Sample ID: 890-4122-2

Lab Sample ID: 890-4122-3

Matrix: Solid

Matrix: Solid

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

**Client Sample ID: SS01** 

Project/Site: SEMU Permian 37

Client: Ensolum

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

### Client Sample ID: SS02

### Date Collected: 02/16/23 14:05

Date Received: 02/17/23 08:18

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

#### Client Sample ID: SS03 Date Collected: 02/16/23 14:10

### Date Received: 02/17/23 08:18

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

#### Laboratory References:

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

Released to Imaging: 11/17/2023 8:55:05 AM

Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMU Permian 37

#### Laboratory: Eurofins Midland

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

uthority	P	rogram	Identification Number	Expiration Date
xas	N	IELAP	T104704400-22-25	06-30-23
The following analytes	are included in this report, b	but the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for
the agency does not o		Matrix	Analyte	
Analysis Method	fer certification. Prep Method	Matrix	Analyte	
0,		Matrix Solid Solid	Analyte Total TPH Total BTEX	

10

Job ID: 890-4122-1

SDG: 03D2057074

Project/Site: SEMU Permian 37

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

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
Protocol Refe	rences:		
ASTM = A	STM International		
EPA = US	Environmental Protection Agency		
SW846 =	"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition,	November 1986 And Its Updates.	
TAL SOP	= TestAmerica Laboratories, Standard Operating Procedure		
Laboratory R	eferences:		
EET MID :	= Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

#### Laboratory References:

Client: Ensolum Project/Site: SEMU Permian 37

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

SS01         Solid         02/16/23 14:00         02/17/23 08:18         0.5           2-2         SS02         Solid         02/16/23 14:05         02/17/23 08:18         0.5	.ab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
	122-1					
-3 SS03 Solid 02/16/23 14:10 02/17/23 08:18 0.5	-2	SS02	Solid	02/16/23 14:05	02/17/23 08:18	0.5
	4122-3	SS03	Solid	02/16/23 14:10	02/17/23 08:18	0.5

Received by OCD: 8/10/2023 3:06:31 PM

# 2/24/2023

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City, State ZIP:		bad, NM		nay		City, Sta					M 882						Reporting:	Level II	Lev	vel III [	] PST/	UST 🛛 TRF	P Level	
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Project Number:	1031	2057	074		T Routine	Rush	י 	Code		-														-
Project Location:	32.	5566	H10,	-1000 19/00	TAT starts t	L		-														Cool: Cool HCL: HC	MeOH: M HNO3: HN	
Sampler's Name:		Julianna	a Falcor	mata	TAT starts t the lab, if re															1		H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH: Na	
PO #:						TIC		ters						110010010	101 10110 101	11 11 11 11	AND MORE IN A					H <sub>3</sub> PO₄: HP		
SAMPLE RECE		Temp		Yes No	Wet Ice:	Yes	No	Parameters													1	NaHSO4: NA	BIS	
Samples Received I Cooler Custody Sea		Yes No	No N/A	Thermome	and the second s	umoe		Par			r				1.444						N	Na2S2O3: Nat	SO3	
Sample Custody Sea		Yes No		Temperatu		12	. 4					1						HE HELIERI			z	Zn Acetate+N	laOH: Zn	
Total Containers:	and.	100 110			Femperature:	2	- 2	1			DES		-	890-4	122 Ch	ainc	of Custody				1	NaOH+Ascor	bic Acid: SAP	C
Sample Ide	ntificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	1 11	Н	CHLORIDES											Sam	ole Commer	nts
5602			5	2-163	1400	.5	C	1		11	$  \rangle$													
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**Chain of Custody** 

### Login Sample Receipt Checklist

Client: Ensolum

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

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	

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

List Source: Eurofins Carlsbad

### Login Sample Receipt Checklist

Client: Ensolum

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

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	True	

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Eurofins Carlsbad Released to Imaging: 11/17/2023 8:55:05 AM 14

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

List Source: Eurofins Midland

List Creation: 02/21/23 08:18 AM

Received by OCD: 8/10/2023 3:06:31 PM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 4/3/2023 3:08:47 PM

# JOB DESCRIPTION

SEMU Permian 37 (Maverick) SDG NUMBER Lea County NM

# **JOB NUMBER**

890-4371-1

FOR nnings solum eld St. te 400 79701 p8:47 PM

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

Received by OCD: 8/10/2023 3:06:31 PM

## **Eurofins Carlsbad**

Job Notes

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

### Authorization

RAMER

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

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

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	Definitions/Glossary	
Client: Ensolu		
Project/Site: 5	SEMU Permian 37 (Maverick) SDG: Lea County NI	
Qualifiers		_ 3
GC VOA		
Qualifier	Qualifier Description	
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	Ę
GC Semi VOA	Α	
Qualifier	Qualifier Description	
F2	MS/MSD RPD exceeds control limits	-
S1-	Surrogate recovery exceeds control limits, low biased.	
S1+	Surrogate recovery exceeds control limits, high biased.	
U	Indicates the analyte was analyzed for but not detected.	
HPLC/IC		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	-
Glossary		- 1
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	

### 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

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

#### Job ID: 890-4371-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-4371-1

#### Receipt

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

#### **Receipt Exceptions**

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

#### GC VOA

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

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

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

#### GC Semi VOA

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

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

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

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

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

#### HPLC/IC

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

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

Result Qualifier

<0.00201 U

<0.00201 U

<0.00201 U

<0.00402 U

<0.00201 U

RL

0.00201

0.00201

0.00201

0.00402

0.00201

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

03/27/23 16:06

03/27/23 16:06

03/27/23 16:06

03/27/23 16:06

03/27/23 16:06

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

Analyzed

03/31/23 22:20

03/31/23 22:20

03/31/23 22:20

### **Client Sample ID: BH01**

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

Sample Depth: 1'

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Ethylbenzene

m-Xylene & p-Xylene

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

5 Dil Fac

1

1

1

Matrix: Solid

1
1
1
Dil Fac
1
1
Dil Fac 1
2

Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
_ Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e					
o-Terphenyl	0.07	S1-	70 - 130			03/27/23 14:32	03/28/23 22:47	1
1-Chlorooctane	0.2	S1-	70 - 130			03/27/23 14:32	03/28/23 22:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/28/23 22:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/28/23 22:47	1
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	49.9	mg/Kg		03/27/23 14:32	03/28/23 22:47	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
 Method: SW846 8015B NM - Die:	sel Range Orga	nice (DRO)	(60)					
Total TPH	<49.9	U	49.9	mg/Kg			03/29/23 12:10	1
Method: SW846 8015 NM - Diese Analyte		Qualifier	GC) RL	Unit	D	Prepared	Analyzed	Dil Fac
- - Mathada OWO 40,0045 NM - Diaga								
Total BTEX	<0.00402		0.00402	mg/Kg			04/03/23 15:53	1
Method: TAL SOP Total BTEX - 1 Analyte		culation Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr) 	87		70 - 130			03/27/23 16:06	03/31/23 22:20	1
4-Bromofluorobenzene (Surr)	106		70 - 130			03/27/23 16:06	03/31/23 22:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/27/23 16:06	03/31/23 22:20	1
,								

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

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Toluene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Ethylbenzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
m-Xylene & p-Xylene	<0.0797	U	0.0797	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
o-Xylene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Xylenes, Total	<0.0797	U	0.0797	mg/Kg		03/27/23 16:06	03/31/23 22:40	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130			03/27/23 16:06	03/31/23 22:40	20

**Eurofins Carlsbad** 

Released to Imaging: 11/17/2023 8:55:05 AM

### **Client Sample Results**

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

### **Client Sample ID: BH01A**

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

Sample Depth: 5'

Client: Ensolum

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

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
,4-Difluorobenzene (Surr)	100		70 - 130			03/27/23 16:06	03/31/23 22:40	2
Nethod: TAL SOP Total BTEX - 1	Total BTEX Calo	culation						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
otal BTEX	<0.0797	U	0.0797	mg/Kg			04/03/23 15:53	
lethod: SW846 8015 NM - Diese	al Rango Organ	ice (DRO) (	CC)					
nalyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
otal TPH	<50.0		50.0	mg/Kg			03/29/23 12:10	
				5.5				
Nethod: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
nalyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil F
Basoline Range Organics	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	
GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	
C10-C28) DII Range Organics (Over C28-C36)	<50.0		50.0	malKa		02/07/02 14.20	03/20/22 22.52	
Sil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 23:52	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil F
			70 - 130			03/27/23 14:32	03/28/23 23:52	
-Chiorooclarie								
- <i>Terphenyl</i> <mark>lethod: EPA 300.0 - Anions, Io</mark> n	77 n Chromatograp			Unit	D	03/27/23 14:32 Prepared	03/28/23 23:52 Analyzed	Dil F
- <i>Terphenyl</i> <mark>/lethod: EPA 300.0 - Anions, Ion</mark> .nalyte	77 <b>Chromatograp</b> <u>Result</u>	<mark>ohy - Solub</mark> l Qualifier	e	<u>Unit</u>	<u>D</u>	03/27/23 14:32 Prepared	Analyzed	Dil F
- <i>Terphenyl</i> <mark>/lethod: EPA 300.0 - Anions, Ion</mark> .nalyte	77 n Chromatograp		e	Unit mg/Kg	D			Dil F
o- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion Analyte Chloride	77 <b>Chromatograp</b> <u>Result</u>		e		D	Prepared	Analyzed	
Analyte Chloride Lient Sample ID: BH02 Ate Collected: 03/20/23 14:00	77 <b>Chromatograp</b> <u>Result</u>		e		<u> </u>	Prepared	Analyzed 03/31/23 00:11 nple ID: 890-4	4371·
- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00	77 <b>Chromatograp</b> <u>Result</u>		e		<u>D</u>	Prepared	Analyzed 03/31/23 00:11 nple ID: 890-4	4371·
- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion Malyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00 ate Received: 03/21/23 08:15	77 <b>Chromatograp</b> <u>Result</u>		e		<u>D</u>	Prepared	Analyzed 03/31/23 00:11 nple ID: 890-4	Dil F 4371 x: Sol
- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion nalyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00 ate Received: 03/21/23 08:15 ample Depth: 1'	77 Chromatograp Result 83.9	Qualifier	e 		<u>D</u>	Prepared	Analyzed 03/31/23 00:11 nple ID: 890-4	4371
- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion Inalyte Chloride ient Sample ID: BH02 Ite Collected: 03/20/23 14:00 Ite Received: 03/21/23 08:15 Imple Depth: 1' Method: SW846 8021B - Volatile	Chromatograp Result 83.9	Qualifier	e 		D	Prepared	Analyzed 03/31/23 00:11 nple ID: 890-4	4371 x: Sol
- <i>Terphenyl</i> Method: EPA 300.0 - Anions, Ion Inalyte Chloride Method: SW846 8021B - Volatile Inalyte	Chromatograp Result 83.9	Qualifier	e 	mg/Kg		Prepared Lab San	Analyzed 03/31/23 00:11 nple ID: 890-4 Matri	4371 x: Sol
Aethod: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02 Ate Collected: 03/20/23 14:00 Ate Received: 03/21/23 08:15 Ample Depth: 1' Method: SW846 8021B - Volatile Analyte Benzene	Chromatograp Result 83.9 Organic Comp Result	Qualifier	e 	mg/Kg		Prepared Lab Sar	Analyzed 03/31/23 00:11 nple ID: 890-4 Matri Analyzed	4371 x: Sol
D-Terphenyl Method: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02	0.108	Qualifier	e 	mg/Kg		Prepared Lab San	Analyzed 03/31/23 00:11 nple ID: 890-4 Matri Analyzed 03/31/23 23:01	4371 x: Sol
Aethod: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00 ate Received: 03/21/23 08:15 ample Depth: 1' Method: SW846 8021B - Volatile analyte Senzene foluene Ethylbenzene	Organic Comp Result 0.108 0.490	Qualifier	e 	mg/Kg Unit mg/Kg mg/Kg		Prepared Lab San Prepared 03/27/23 16:06 03/27/23 16:06	Analyzed 03/31/23 00:11 nple ID: 890 Matri 03/31/23 23:01 03/31/23 23:01	4371 x: Sol
Method: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00 ate Received: 03/21/23 08:15 ample Depth: 1' Method: SW846 8021B - Volatile Analyte Benzene Foluene	Chromatograp Result 83.9 Organic Comp Result 0.108 0.490 1.83	Qualifier	e 	mg/Kg Unit mg/Kg mg/Kg mg/Kg		Prepared Lab San Prepared 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06	Analyzed 03/31/23 00:11 nple ID: 890 Matri 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01	4371 x: Sol
-Terphenyl Method: EPA 300.0 - Anions, Ion inalyte ichloride ient Sample ID: BH02 ite Collected: 03/20/23 14:00 ite Received: 03/21/23 08:15 imple Depth: 1' Method: SW846 8021B - Volatile inalyte ienzene oluene ithylbenzene h-Xylene & p-Xylene -Xylene	77 A Chromatograp Result 83.9 COrganic Comp Result 0.108 0.490 1.83 10.1	Qualifier	e	Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg		Prepared Lab San Prepared 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06	Analyzed 03/31/23 00:11 nple ID: 890 Matri 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01	4371 x: Sol
-Terphenyl Method: EPA 300.0 - Anions, Ion nalyte ihloride ient Sample ID: BH02 te Collected: 03/20/23 14:00 te Received: 03/21/23 08:15 mple Depth: 1' Method: SW846 8021B - Volatile nalyte ienzene oluene thylbenzene h-Xylene & p-Xylene -Xylene ylenes, Total	77 A Chromatograp Result 83.9 COrganic Comp Result 0.108 0.490 1.83 10.1 8.05	Qualifier ounds (GC Qualifier	e 	Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg		Prepared Lab San 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06	Analyzed 03/31/23 00:11 nple ID: 890- Matri 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01	4371 x: Sol
Aethod: EPA 300.0 - Anions, Ion Analyte Chloride lient Sample ID: BH02 ate Collected: 03/20/23 14:00 ate Received: 03/21/23 08:15 ample Depth: 1' Aethod: SW846 8021B - Volatile Analyte Senzene Foluene Coluene Coluene Coluene & p-Xylene	77 a Chromatograp Result 83.9 b Organic Comp Result 0.108 0.490 1.83 10.1 8.05 18.2 %Recovery	Qualifier ounds (GC Qualifier	e	Unit mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg		Prepared Lab San 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06 03/27/23 16:06	Analyzed 03/31/23 00:11 nple ID: 890- Matri 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01 03/31/23 23:01	4371·

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	20.6		0.199	mg/Kg			04/03/23 15:53	1
Method: SW846 8015 NM - Diesel	Range Organi	ics (DRO) (G	C)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	3790		249	mg/Kg			03/29/23 12:10	1

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

Lab Sample ID: 890-4371-4

Matrix: Solid

### Client Sample ID: BH02

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

### Sample Depth: 1'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	782		249	mg/Kg		03/27/23 14:32	03/29/23 04:54	5
Diesel Range Organics (Over C10-C28)	3010		249	mg/Kg		03/27/23 14:32	03/29/23 04:54	5
Oll Range Organics (Over C28-C36)	<249	U	249	mg/Kg		03/27/23 14:32	03/29/23 04:54	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			03/27/23 14:32	03/29/23 04:54	5
o-Terphenyl	100		70 - 130			03/27/23 14:32	03/29/23 04:54	5

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

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

#### **Client Sample ID: BH02A**

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

Sample Depth: 5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0402	U	0.0402	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Toluene	<0.0402	U	0.0402	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Ethylbenzene	<0.0402	U	0.0402	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
m-Xylene & p-Xylene	<0.0805	U	0.0805	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
o-Xylene	<0.0402	U	0.0402	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Xylenes, Total	<0.0805	U	0.0805	mg/Kg		03/27/23 16:06	03/31/23 23:21	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)		S1+	70 - 130			03/27/23 16:06	03/31/23 23:21	20
1,4-Difluorobenzene (Surr)	95		70 - 130			03/27/23 16:06	03/31/23 23:21	20
Method: TAL SOP Total BTEX - 1 Analyte	Result	Qualifier	RL		D	Prepared	Analyzed	Dil Fa
Analyte Total BTEX		Qualifier U	0.0805	<mark>Unit</mark> mg/Kg	<u> </u>	Prepared	Analyzed 04/03/23 15:53	Dil Fac
Analyte	el Range Organ	Qualifier U	0.0805		<u>D</u> 	Prepared		1
Analyte Total BTEX Method: SW846 8015 NM - Diese	el Range Organ	Qualifier U ics (DRO) ( Qualifier	0.0805	mg/Kg		<u>·</u>	04/03/23 15:53	Dil Fac 1 Dil Fac 1
Analyte Total BTEX Method: SW846 8015 NM - Diese Analyte	el Range Organ Result cl. Range Organ Result <50.0	Qualifier U ics (DRO) ( Qualifier U	0.0805 GC) RL 50.0	mg/Kg Unit		<u>·</u>	04/03/23 15:53 Analyzed	1
Analyte Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese	el Range Organ Result Constant Result Constant Result Constant Result Constant Const	Qualifier U ics (DRO) ( Qualifier U	0.0805 GC) RL 50.0	mg/Kg Unit		<u>·</u>	04/03/23 15:53 Analyzed	Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result Constant Result Constant Result Constant Result Constant Const	Qualifier U ics (DRO) ( Qualifier U nics (DRO) Qualifier	0.0805 GC) RL 50.0 (GC)	mg/Kg Unit mg/Kg	<u>D</u>	Prepared	04/03/23 15:53 Analyzed 03/29/23 12:10	Dil Fac
Analyte Total BTEX Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ Result <0.0805 el Range Organ         	Qualifier U ics (DRO) ( Qualifier U nics (DRO) Qualifier U	0.0805 GC) RL 50.0 (GC) RL	mg/Kg Unit mg/Kg Unit	<u>D</u>	Prepared	04/03/23 15:53 Analyzed 03/29/23 12:10 Analyzed	1

		Clien	t Sample Re	sults				
Client: Ensolum			•				Job ID: 890	-4371-1
Project/Site: SEMU Permian 37 (Ma	averick)						SDG: Lea Co	unty NN
Client Sample ID: BH02A						Lab Sar	nple ID: 890-	4371-4
Date Collected: 03/20/23 14:20								x: Solic
Date Received: 03/21/23 08:15								
Sample Depth: 5'								
_ Method: EPA 300.0 - Anions, Ion	Chromatogram	hv - Solubl	e					
Analyte	• •	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1350		4.97	mg/Kg			03/31/23 00:30	
Client Sample ID: BH03						Lab Sar	nple ID: 890-	4371-5
Date Collected: 03/20/23 14:40								x: Solid
Date Received: 03/21/23 08:15							inati	
Sample Depth: 1'								
_ Method: SW846 8021B - Volatile	Organia Comp	oundo (CC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0403	U	0.0403	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Toluene	<0.0403	U	0.0403	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Ethylbenzene	<0.0403	U	0.0403	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
m-Xylene & p-Xylene	<0.0806	U	0.0806	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
o-Xylene	<0.0403	U	0.0403	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Xylenes, Total	<0.0806	U	0.0806	mg/Kg		03/27/23 16:06	03/31/23 23:41	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			03/27/23 16:06	03/31/23 23:41	20
1,4-Difluorobenzene (Surr) _	89		70 - 130			03/27/23 16:06	03/31/23 23:41	20
Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation						
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0806	U	0.0806	mg/Kg			04/03/23 15:53	1
_ Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	54.3		50.0	mg/Kg			03/29/23 12:10	1
_ Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(60)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	-	50.0	mg/Kg		03/27/23 14:32	03/29/23 06:21	1
(GRO)-C6-C10 Diesel Range Organics (Over	54.3		50.0	mg/Kg		03/27/23 14:32	03/29/23 06:21	1
C10-C28)	04.0		00.0	ilightg		00/21/20 14.02	00/20/20 00.21	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/29/23 06:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			03/27/23 14:32	03/29/23 06:21	1
o-Terphenyl	86		70 - 130			03/27/23 14:32	03/29/23 06:21	1
_ Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
							00/04/00 00 05	

Eurofins Carlsbad

03/31/23 00:35

Chloride

4.99

mg/Kg

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

### **Client Sample ID: BH03A**

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

Sample Depth: 5'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Toluene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Ethylbenzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
m-Xylene & p-Xylene	<0.0797	U	0.0797	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
o-Xylene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Xylenes, Total	<0.0797	U	0.0797	mg/Kg		03/27/23 16:06	04/01/23 00:02	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130			03/27/23 16:06	04/01/23 00:02	20
1,4-Difluorobenzene (Surr)	72		70 - 130			03/27/23 16:06	04/01/23 00:02	20
Method: SW846 8015 NM - Dies			· ·	11-24	-	Da '	Au-1	<b>D</b> 11 <b>-</b>
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH Method: SW846 8015B NM - Die			· · · ·	mg/Kg			03/29/23 12:10	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg	-	03/27/23 14:32	03/29/23 06:00	1
Diesel Range Organics (Over C10-C28)	260		49.9	mg/Kg		03/27/23 14:32	03/29/23 06:00	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 06:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

					-	-		
1-Chlorooctane	101		70 - 130			03/27/23 14:32	03/29/23 06:00	1
o-Terphenyl	101		70 - 130			03/27/23 14:32	03/29/23 06:00	1
Method: EPA 300.0 - Anions, Ion C	hromatograp	hy - Solub	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	372		5.00	mg/Kg			03/31/23 00:40	1

### **Client Sample ID: BH04** Date Collected: 03/20/23 15:20

Date Received: 03/21/23 08:15

Sample Depth: 1'

Method: SW846 8021B - Volat	ile Organic Comp	ounds (GC)	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Toluene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Ethylbenzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
m-Xylene & p-Xylene	<0.0795	U	0.0795	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
o-Xylene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Xylenes, Total	<0.0795	U	0.0795	mg/Kg		03/27/23 16:06	04/01/23 00:22	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		70 - 130			03/27/23 16:06	04/01/23 00:22	20

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Lab Sample ID: 890-4371-7

Matrix: Solid

5

### **Client Sample Results**

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

Matrix: Solid

5

Lab Sample ID: 890-4371-7

### Client Sample ID: BH04

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

Sample Depth: 1'

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	98		70 - 130			03/27/23 16:06	04/01/23 00:22	20
Method: TAL SOP Total BTEX - T	otal BTEX Calo	ulation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.0795	U	0.0795	mg/Kg			04/03/23 15:53	
Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			03/29/23 12:10	
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	,
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 14:32	03/29/23 00:14	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	84		70 - 130			03/27/23 14:32	03/29/23 00:14	
o-Terphenyl	83		70 - 130			03/27/23 14:32	03/29/23 00:14	
Method: EPA 300.0 - Anions, Ion	Chromatograp	hy - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	49.4		4.95	mg/Kg		,	03/31/23 00:44	
lient Sample ID: BH04A						l ah San	nple ID: 890-	4371_9

Sample Depth: 5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Toluene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Ethylbenzene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
m-Xylene & p-Xylene	<0.0798	U	0.0798	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
o-Xylene	<0.0399	U	0.0399	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Xylenes, Total	<0.0798	U	0.0798	mg/Kg		03/27/23 16:06	04/01/23 00:43	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130			03/27/23 16:06	04/01/23 00:43	20
1,4-Difluorobenzene (Surr)	94		70 - 130			03/27/23 16:06	04/01/23 00:43	20
Method: TAL SOP Total BTEX	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0798	U	0.0798	mg/Kg			04/03/23 15:53	1
Method: SW846 8015 NM - Di	esel Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

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

Matrix: Solid

Lab Sample ID: 890-4371-8

Lab Sample ID: 890-4371-9

Matrix: Solid

### Client Sample ID: BH04A

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

Date Ne	ceiveu.	03/21/23	U
Sample	Depth:	5'	

Client: Ensolum

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)	
method. Swoto Strib Min - Dieser Kange Organics (DKO) (SO)	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 00:35	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 00:35	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/27/23 14:32	03/29/23 00:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			03/27/23 14:32	03/29/23 00:35	1
o-Terphenyl	92		70 - 130			03/27/23 14:32	03/29/23 00:35	1

### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

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

#### Client Sample ID: BH05

Date Collected: 03/20/23 16:00 Date Received: 03/21/23 08:15

Sample Depth: 1'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.100	U	0.100	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Toluene	0.150		0.100	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Ethylbenzene	1.76		0.100	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
m-Xylene & p-Xylene	3.18		0.200	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
o-Xylene	10.1		0.100	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Xylenes, Total	13.3		0.200	mg/Kg		03/27/23 16:06	04/01/23 01:03	50
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	280	S1+	70 - 130			03/27/23 16:06	04/01/23 01:03	50
1,4-Difluorobenzene (Surr)	97		70 - 130			03/27/23 16:06	04/01/23 01:03	50
Analyte Total BTEX Method: SW846 8015 NM - Diese Analyte	15.2 I Range Organ	Qualifier ics (DRO) ( Qualifier	GC)	Unit mg/Kg Unit	D	Prepared	Analyzed 04/03/23 15:53 Analyzed	Dil Fac
Total TPH	8710		498	mg/Kg			03/29/23 12:10	
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics		nics (DRO) Qualifier	(GC) <u>RL</u> 498	Unit mg/Kg	<u>D</u>	Prepared 03/27/23 14:32	Analyzed	Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	7680		498	mg/Kg		03/27/23 14:32	03/29/23 05:16	1
Oll Range Organics (Over C28-C36)	<498	U	498	mg/Kg		03/27/23 14:32	03/29/23 05:16	10

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

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		Clien	t Sample Re	sults				
Client: Ensolum			•				Job ID: 890	-4371-1
Project/Site: SEMU Permian 37 (Ma	averick)						SDG: Lea Co	unty NN
Client Sample ID: BH05 Date Collected: 03/20/23 16:00 Date Received: 03/21/23 08:15 Sample Depth: 1'						Lab Sar	nple ID: 890- Matri	4371-9 x: Solic
- Method: EPA 300.0 - Anions, Ion Analyte		o <mark>hy - Solub</mark> l Qualifier	e RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	626		5.03	mg/Kg			03/31/23 20:19	1
Client Sample ID: BH05A Date Collected: 03/20/23 16:20 Date Received: 03/21/23 08:15 Sample Depth: 5'						Lab Sam	ple ID: 890-4 Matri	371-10 x: Solid
Method: SW846 8021B - Volatile Analyte		ounds (GC) Qualifier	) RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0398		0.0398	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Toluene	0.117	0	0.0398	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Ethylbenzene	<0.0398	U	0.0398	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
m-Xylene & p-Xylene	<0.0797		0.0797	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
o-Xylene	< 0.0398		0.0398	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Xylenes, Total	<0.0797		0.0797	mg/Kg		03/27/23 16:06	04/01/23 01:24	20
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			03/27/23 16:06	04/01/23 01:24	20
1,4-Difluorobenzene (Surr)	108		70 - 130			03/27/23 16:06	04/01/23 01:24	20
- Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.117		0.0797	mg/Kg			04/03/23 15:53	1
_ Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	255		50.0	mg/Kg			03/29/23 12:10	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg	_	03/27/23 14:32	03/29/23 05:38	1
Diesel Range Organics (Over C10-C28)	255		50.0	mg/Kg		03/27/23 14:32	03/29/23 05:38	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/29/23 05:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			03/27/23 14:32	03/29/23 05:38	1
o-Terphenyl	99		70 - 130			03/27/23 14:32	03/29/23 05:38	1
Method: EPA 300.0 - Anions, Ion				l Init	~	Dronarad	Applyzed	
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

03/31/23 20:24

Chloride

25.1

mg/Kg

Client: Ensolum

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

### Method: 8021B - Volatile Organic Compounds (GC) Matrix: Solid

		DED4	DED74	Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		E
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		5
890-4371-1	BH01	106	87		
890-4371-1 MS	BH01	125	109		6
890-4371-1 MSD	BH01	115	107		
890-4371-2	BH01A	81	100		
890-4371-3	BH02	273 S1+	92		
890-4371-4	BH02A	144 S1+	95		8
890-4371-5	BH03	110	89		
890-4371-6	BH03A	130	72		Q
890-4371-7	BH04	71	98		3
890-4371-8	BH04A	77	94		
890-4371-9	BH05	280 S1+	97		
890-4371-10	BH05A	90	108		
LCS 880-49657/1-A	Lab Control Sample	116	107		
LCSD 880-49657/2-A	Lab Control Sample Dup	120	105		
MB 880-49654/5-A	Method Blank	74	81		
MB 880-49657/5-A	Method Blank	85	89		
Surrogate Legend					13
BFB = 4-Bromofluorobe	nzene (Surr)				
DFBZ = 1,4-Difluoroben	nzene (Syrr)				

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

Matrix: Solid

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

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

Prep Type: Total/NA

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

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

 Lab Sample ID: MB 880-49654/5	5-A								Client Sa	mple ID: Me	thod	Blank
Matrix: Solid										Prep Typ	e: To	otal/NA
Analysis Batch: 49999										Prep Ba	tch:	<b>4965</b> 4
	MI	B MB										
Analyte	Resu	t Qualifier	RL		Unit		D	P	repared	Analyzed		Dil Fac
Benzene	<0.0020	U U	0.00200		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	3	1
Toluene	<0.0020	U U	0.00200		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	23	1
Ethylbenzene	<0.0020	U U	0.00200		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	23	1
m-Xylene & p-Xylene	<0.0040	D U	0.00400		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	3	1
o-Xylene	<0.0020	U U	0.00200		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	23	1
Xylenes, Total	<0.0040	U U	0.00400		mg/K	g		03/2	7/23 15:25	03/31/23 11:2	3	1
	М	3 <i>MB</i>										
Surrogate	%Recover	y Qualifier	Limits					Р	repared	Analyzed		Dil Fac
4-Bromofluorobenzene (Surr)	7	4	70 - 130					03/2	7/23 15:25	03/31/23 11:2	23	1
1,4-Difluorobenzene (Surr)	8	1	70 - 130					03/2	7/23 15:25	03/31/23 11:2	23	1
											41I	Disula
Lab Sample ID: MB 880-49657/5	р-А								Client Sa	mple ID: Me		
Matrix: Solid										Prep Typ		
Analysis Batch: 49999										Prep Ba	itch:	49657
		B MB					_	_	_			
Analyte	Resu		RL		Unit		D		repared	Analyzed		Dil Fac
Benzene	<0.0020		0.00200		mg/K	-			7/23 16:06	03/31/23 21:5		1
Toluene	<0.0020	) U	0.00200		mg/K	g		03/2	7/23 16:06	03/31/23 21:	58	1
Ethylbenzene	<0.0020	) U	0.00200		mg/K	g		03/2	7/23 16:06	03/31/23 21:5	58	1
m-Xylene & p-Xylene	<0.0040	D U	0.00400		mg/K	g		03/2	7/23 16:06	03/31/23 21:5	58	1
o-Xylene	<0.0020	U U	0.00200		mg/K	g		03/2	7/23 16:06	03/31/23 21:5	58	1
Xylenes, Total	<0.0040	D U	0.00400		mg/K	g		03/2	7/23 16:06	03/31/23 21:5	58	1
	М	3 <i>MB</i>										
Surrogate	%Recover	y Qualifier	Limits					P	repared	Analyzed		Dil Fac
4-Bromofluorobenzene (Surr)	8	5	70 - 130					03/2	7/23 16:06	03/31/23 21:	58	1
1,4-Difluorobenzene (Surr)	8	9	70 - 130					03/2	7/23 16:06	03/31/23 21:	58	1
 Lab Sample ID: LCS 880-49657/	1-A						С	lient	Sample	ID: Lab Cont	rol S	ample
Matrix: Solid									oumpro	Prep Typ		
Analysis Batch: 49999										Prep Ba		
Analysis Datch. 40000			Spike	105	LCS					%Rec	iten.	43037
Analyte			Added		Qualifier	Unit		D	%Rec	Limits		
Benzene			0.100	0.09066	Quaimer				91	70 - 130		
			0.100	0.09066		mg/Kg mg/Kg				70 - 130 70 - 130		
									92			
			0.100	0.09701		mg/Kg			97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2066		mg/Kg			103	70 - 130		
o-Xylene			0.100	0.1130		mg/Kg			113	70 - 130		
	LCS LC											
Surrogate		alifier	Limits									
4-Bromofluorobenzene (Surr)	116		70 - 130									
1,4-Difluorobenzene (Surr)	107		70 - 130									
_ Lab Sample ID: LCSD 880-4965	7/2-A					Cli	ent	Sam	ple ID: L	ab Control S	amp	le Dup
Matrix: Solid									• •	Prep Typ		
Analysis Batch: 49999										Prep Ba		
			Spike	LCSD	LCSD					%Rec		RPD
Analyte			Added		Qualifier	Unit		D	%Rec		RPD	Limit
			0.100	0.00100	quamor					70 120		

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Released to Imaging: 11/17/2023 8:55:05 AM

Benzene

0.09100

mg/Kg

91

70 - 130

0.100

35

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

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

Lab Sample ID: LCSD 880-49	9657/2-A					Clier	nt Sam	ple ID:	Lab Contro		
Matrix: Solid										ype: To	
Analysis Batch: 49999									Prep	Batch:	4965
			Spike	LCSD	LCSD				%Rec		RP
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Toluene			0.100	0.09094		mg/Kg		91	70 - 130	1	3
Ethylbenzene			0.100	0.09972		mg/Kg		100	70 - 130	3	3
m-Xylene & p-Xylene			0.200	0.2134		mg/Kg		107	70 - 130	3	3
o-Xylene			0.100	0.1143		mg/Kg		114	70 - 130	1	3
	ICSD	LCSD									
Surrogate	%Recovery		Limits								
4-Bromofluorobenzene (Surr)	120		70 - 130								
1,4-Difluorobenzene (Surr)	105		70 - 130								
Lab Cample ID: 000 4074 4 b											DUG
Lab Sample ID: 890-4371-1 M	/15								Client Sar		
Matrix: Solid										ype: To	
Analysis Batch: 49999	<u> </u>	<u> </u>	<b>•</b> "							Batch:	4965
		Sample	Spike	MS			_	~-	%Rec		
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec	Limits		
Benzene	<0.00201		0.0998	0.08943		mg/Kg		90	70 - 130		
Toluene	<0.00201		0.0998	0.09016		mg/Kg		90	70 - 130		
Ethylbenzene	<0.00201		0.0998	0.09631		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2037		mg/Kg		102	70 - 130		
o-Xylene	<0.00201	U	0.0998	0.1082		mg/Kg		108	70 - 130		
	MS										
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	125		70 - 130								
1,4-Difluorobenzene (Surr)	109		70 - 130								
Lab Sample ID: 890-4371-1 M	ISD								Client Sar	nple ID:	BHO
Matrix: Solid									Prep T	ype: To	tal/N
Analysis Batch: 49999									Prep	Batch:	4965
	Sample	Sample	Spike	MSD	MSD				%Rec		RP
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
Benzene	<0.00201	U	0.0990	0.09214		mg/Kg		93	70 - 130	3	3
Toluene	<0.00201	U	0.0990	0.08867		mg/Kg		90	70 - 130	2	3
Ethylbenzene	<0.00201	U	0.0990	0.09360		mg/Kg		95	70 - 130	3	3
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1992		mg/Kg		101	70 - 130	2	3
p-Xylene	<0.00201	U	0.0990	0.1055		mg/Kg		107	70 - 130	3	3
	MSD	MSD									
	%Recovery	Qualifier	Limits								
Surrogate	7011CCOVCI y										
Surrogate 4-Bromofluorobenzene (Surr)			70 - 130								
-			70 - 130 70 - 130								

Lab Sample ID: MB 880-49652/1-A Matrix: Solid						Client Sa	mple ID: Metho Prep Type: 1	
Analysis Batch: 49691							Prep Batch	n: <b>49652</b>
	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		03/27/23 14:32	03/28/23 21:43	1
(GRO)-C6-C10								

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

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

Matrix: Solid											Prep 1	Type: To	tal/NA
Analysis Batch: 49691												Batch:	
		ΜВ	МВ										
Analyte	R	esult	Qualifier	RL		Unit		D	Р	repared	Analyz	ed	Dil Fac
Diesel Range Organics (Over	<	50.0	U	50.0		mg/K	g		03/2	7/23 14:32	03/28/23	21:43	1
C10-C28)													
Oll Range Organics (Over C28-C36)	<	50.0	U	50.0		mg/K	g		03/2	7/23 14:32	03/28/23	21:43	1
		ΜВ	МВ										
Surrogate	%Reco	very	Qualifier	Limits					P	repared	Analyz	ed	Dil Fac
1-Chlorooctane		124		70 - 130				-	03/2	7/23 14:32	03/28/23	21:43	1
o-Terphenyl		124		70 - 130					03/2	7/23 14:32	03/28/23	21:43	1
Lab Sample ID: LCS 880-49652	1 <b>2-</b> Δ							CI	lient	Sample	ID: Lab Co	ontrol S	ample
Matrix: Solid										Campio		Type: To	
Analysis Batch: 49691												Batch:	
				Spike	LCS	LCS					%Rec		
Analyte				Added	Result	Qualifier	Unit		D	%Rec	Limits		
Gasoline Range Organics				1000	869.0		mg/Kg		_	87	70 - 130		
(GRO)-C6-C10													
Diesel Range Organics (Over				1000	875.2		mg/Kg			88	70 - 130		
C10-C28)													
	LCS	LCS											
Surrogate	%Recovery	Qua	lifier	Limits									
1-Chlorooctane	103			70 - 130									
o-Terphenyl	103			70 - 130									
- 	-0/0 4								• • • • •		ah Cautur		
Lab Sample ID: LCSD 880-4965	52/3-A						CI	ient	Sam		ab Contro	-	
Matrix: Solid												Satch:	
Analysis Batch: 49691				Spike		LCSD					%Rec	Batch.	RPD
Analyte				Added		Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics				Addod	Rooun		mg/Kg		_				E
(GRO)-C6-C10				1000	972 5					97	70 - 130	11	20
				1000	972.5		ing/itg			97	70 - 130	11	20
Diesel Range Organics (Over				1000	972.5 912.9		mg/Kg			97 91	70 - 130 70 - 130	11 4	20
Diesel Range Organics (Over C10-C28)													
	LCSD	LCS	D										
C10-C28)													
	LCSD %Recovery 102			1000									
C10-C28)	%Recovery			1000 Limits									
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 102			1000 Limits 70 - 130							70 - 130	4	20
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS	%Recovery 102			1000 Limits 70 - 130							70 - 130 Client Sar	4 mple ID	20 : <b>BH01</b>
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS Matrix: Solid	%Recovery 102			1000 Limits 70 - 130							70 - 130 Client Sar Prep 1	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS	%Recovery 102 106	Qua	ifier	1000 Limits 70 - 130 70 - 130	912.9	MS					70 - 130 Client Sar Prep 1 Prep	4 mple ID	20 : BH01 otal/NA
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691	%Recovery 102 106 Sample	Qua Sam	lifier	1000 <i>Limits</i> 70 - 130 70 - 130 <b>Spike</b>	912.9 MS	MS Qualifier	mg/Kg		D	91	70 - 130 Client Sar Prep 1 Prep %Rec	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691 Analyte	%Recovery 102 106	Qua Sam Qual	ifier	1000 Limits 70 - 130 70 - 130	912.9				D		70 - 130 Client Sar Prep 1 Prep	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691	%Recovery 102 106 Sample Result	Qua Sam Qual	ifier	1000 <i>Limits</i> 70 - 130 70 - 130 Spike Added	912.9 MS Result		mg/Kg		<u>D</u>	91 %Rec	70 - 130 Client Sar Prep 7 %Rec Limits	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28)  Surrogate  1-Chlorooctane o-Terphenyl  Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691  Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 102 106 Sample Result	Qual Sam Qual U F2	ifier	1000 <i>Limits</i> 70 - 130 70 - 130 Spike Added	912.9 MS Result		mg/Kg		<u>D</u>	91 %Rec	70 - 130 Client Sar Prep 7 %Rec Limits	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691 Analyte Gasoline Range Organics (GRO)-C6-C10	%Recovery 102 106 Sample Result <49.9	Qual Sam Qual U F2	ifier	1000 Limits 70 - 130 70 - 130 Spike Added 997	912.9 MS Result 862.1		mg/Kg		<u>D</u>	91 %Rec 86	70 - 130 Client Sar Prep 7 %Rec Limits 70 - 130	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28)  Surrogate 1-Chlorooctane o-Terphenyl  Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691  Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 102 106 Sample Result <49.9	Qua Sam Qua U F2 U	ifier	1000 Limits 70 - 130 70 - 130 Spike Added 997	912.9 MS Result 862.1		mg/Kg		<u>D</u>	91 %Rec 86	70 - 130 Client Sar Prep 7 %Rec Limits 70 - 130	4 nple ID Type: To	20 : BH01 otal/NA
C10-C28)  Surrogate  1-Chlorooctane o-Terphenyl  Lab Sample ID: 890-4371-1 MS Matrix: Solid Analysis Batch: 49691  Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	%Recovery 102 106 Sample Result <49.9 <49.9	Qua Sam Qual U F2 U	ifier	1000 Limits 70 - 130 70 - 130 Spike Added 997	912.9 MS Result 862.1		mg/Kg		D	91 %Rec 86	70 - 130 Client Sar Prep 7 %Rec Limits 70 - 130	4 nple ID Type: To	20 : BH01 otal/NA

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88

80

1-Chlorooctane

o-Terphenyl

70 - 130

70 - 130

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

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

Lab Sample ID: 890-4371-1	MSD								Client Sar	mple ID:	BHU1
Matrix: Solid									Prep 1	Type: To	tal/N/
Analysis Batch: 49691									Prep	Batch:	49652
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	999	1185	F2	mg/Kg		119	70 - 130	32	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1014		mg/Kg		102	70 - 130	12	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	103		70 - 130								
o-Terphenyl	91		70 - 130								
lethod: 300.0 - Anions, Lab Sample ID: MB 880-498 Matrix: Solid Analysis Batch: 50034		ography						Client S	Sample ID: Prep	Method Type: So	
Analysis Batch. 50054		MB MB									
Analyte	R	esult Qualifier		RL	Unit		D F	repared	Analyz	zed	Dil Fa
Chloride	<	<5.00 U		5.00	mg/K	g		-	03/30/23	22:29	
Matrix: Solid Analysis Batch: 50034									-	Type: So	olubl
			Spike		LCS		_	~ <b>5</b>	%Rec		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			250	261.5		mg/Kg		105	90 - 110		
Matrix: Solid	49884/3-A					Cli	ent San	nple ID:	Lab Contro Prep	ol Sampl Type: So	
Matrix: Solid	49884/3-A		Spike	LCSD	LCSD	Cli	ent San	nple ID:	Prep		olubl
Matrix: Solid Analysis Batch: 50034	49884/3-A		Spike Added		LCSD Qualifier	Cli Unit	ent San D	nple ID: %Rec			olubl RPI
Matrix: Solid Analysis Batch: 50034 Analyte	49884/3-A 							-	Prep %Rec	Type: S	olubl RPI Lim
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid			Added	Result		Unit		%Rec 105	Prep %Rec Limits 90 - 110	Type: So	olubl RP Lim 2 Spik
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid	 24-E MS		Added 250	Result 261.8	Qualifier	Unit		%Rec 105	Prep %Rec Limits 90 - 110 Sample ID Prep	Type: So <u>RPD</u> 0 : Matrix	RPI Lim 2 Spike
Matrix: Solid Analysis Batch: 50034	24-E MS Sample	Sample	Added 250 -	Result 261.8 MS	Qualifier MS	- Unit mg/Kg	<u> </u>	%Rec 105 Client	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec	Type: So <u>RPD</u> 0 : Matrix	RPI Limi 20 Spike
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid Analysis Batch: 50034 Analyte	-24-E MS Sample Result	Sample Qualifier	Added 250 Spike Added	Result 261.8 MS Result	Qualifier	Unit mg/Kg Unit		%Rec 105 Client	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits	Type: So <u>RPD</u> 0 : Matrix	RPI Limi 20 Spike
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid Analysis Batch: 50034 Analyte	24-E MS Sample	-	Added 250 -	Result 261.8 MS	Qualifier MS	- Unit mg/Kg	<u> </u>	%Rec 105 Client	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec	Type: So <u>RPD</u> 0 : Matrix	RPI Limi 20 Spike
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid	A-24-E MS Sample Result 1520	-	Added 250 Spike Added	Result 261.8 MS Result	Qualifier MS	Unit mg/Kg	D	%Rec 105 Client %Rec 104	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 D: Matrix Sp	Type: So <u>RPD</u> 0 : Matrix Type: So	olubl RPI 2 Spike olubl
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid	-24-E MS Sample <u>Result</u> 1520 -24-F MSD	Qualifier	Added 250 Spike Added 2520	Result 261.8 MS Result 4138	Qualifier MS	Unit mg/Kg	D	%Rec 105 Client %Rec 104	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 D: Matrix Sp Prep	Type: So <u>RPD</u> 0 : Matrix Type: So 	oluble RPI 2 Spike oluble
Matrix: Solid Analysis Batch: 50034 Analyte Chloride Lab Sample ID: 890-4370-A Matrix: Solid	-24-E MS Sample Result 1520 A-24-F MSD Sample	-	Added 250 Spike Added	Result 261.8 MS Result 4138	Qualifier MS Qualifier	Unit mg/Kg	D	%Rec 105 Client %Rec 104	Prep %Rec Limits 90 - 110 Sample ID Prep %Rec Limits 90 - 110 D: Matrix Sp	Type: So <u>RPD</u> 0 : Matrix Type: So 	oluble RPI Limi 20 Spike oluble

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Client: Ensolum

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

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-49876/1-A											Client S	Sample ID:		
Matrix: Solid												Prep	Type: So	oluble
Analysis Batch: 50035														
• • •	_	MB							_	_				
Analyte			Qualifier				Unit		D	PI	repared	Analyz		Dil Fac
Chloride	<	\$.00	U		5.00		mg/K	9				03/31/23	19:50	٦
Lab Sample ID: LCS 880-49876/2-A									Cli	ent	Sample	e ID: Lab C	ontrol S	ample
Matrix: Solid													Type: So	
Analysis Batch: 50035														
				Spike	LC	S LC	s					%Rec		
Analyte				Added	Resu	lt Qua	alifier	Unit		D	%Rec	Limits		
Chloride				250	256	8		mg/Kg		_	103	90 - 110		
Lab Sample ID: LCSD 880-49876/3-A								Cli	ent S	Sam	ple ID:	Lab Contro	ol Sampl	e Dur
Matrix: Solid													Type: So	
Analysis Batch: 50035													.,,	
				Spike	LCS	DLC	SD					%Rec		RPD
Analyte				Added	Resu	lt Qua	alifier	Unit		D	%Rec	Limits	RPD	Limi
Chloride				250	257	2		mg/Kg		_	103	90 _ 110	0	20
Lab Sample ID: 890-4371-8 MS												Client Sam	ple ID: E	3H04/
Matrix: Solid												Prep	Type: So	oluble
Analysis Batch: 50035														
												a/ <b>-</b>		
-	Sample	Sam	ple	Spike	N	S MS						%Rec		
-	Sample Result	-		Spike Added	N Resu		alifier	Unit		D	%Rec	%Rec Limits		
	-			•		lt Qua		Unit mg/Kg		<u>D</u>	<b>%Rec</b> 99			
Analyte	Result			Added	Resu	lt Qua				<u>D</u>	99	Limits 90 - 110	 ple ID: E	 3H04 <i>4</i>
Analyte	Result			Added	Resu	lt Qua				<u>D</u>	99	Limits 90 - 110	ple ID: E Type: So	
Analyte Chloride Lab Sample ID: 890-4371-8 MSD	Result			Added	Resu	lt Qua				<u>D</u>	99	Limits 90 - 110		
Analyte Chloride Lab Sample ID: 890-4371-8 MSD Matrix: Solid Analysis Batch: 50035	Result	Qual	ifier	Added	Resu	lt Qua	alifier			<u>D</u>	99	Limits 90 - 110		oluble
Analyte Chloride Lab Sample ID: 890-4371-8 MSD Matrix: Solid Analysis Batch: 50035	Result 89.2	Qual	fier	Added 249	Resu 336 MS	lt Qua	alifier D			D	99	Limits 90 - 110 Client Sam Prep		

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

BH03

BH03A

BH04

BH04A

BH05

BH05A

BH01

BH01

Method Blank

Lab Control Sample

Lab Control Sample Dup

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

#### **GC VOA**

890-4371-5

890-4371-6

890-4371-7

890-4371-8

890-4371-9

890-4371-10

MB 880-49657/5-A

LCS 880-49657/1-A

890-4371-1 MS

890-4371-1 MSD

LCSD 880-49657/2-A

#### Prep Batch: 49654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49654/5-A	Method Blank	Total/NA	Solid	5035	
ep Batch: 49657					
	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
	Client Sample ID BH01	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
890-4371-1					Prep Batch
Lab Sample ID 890-4371-1 890-4371-2 890-4371-3	BH01	Total/NA	Solid	5035	Prep Batch

Total/NA

Solid

5035

5035

5035

5035

5035

5035

5035

5035

5035

5035

5035

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

#### Analysis Batch: 50240

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

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

### Prep Batch: 49652

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

#### Analysis Batch: 49691

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

#### Analysis Batch: 49831

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

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

Prep Type

Soluble

Matrix

Solid

Method

DI Leach

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

**Client Sample ID** 

BH04A

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Prep Batch

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

8

BH05	Soluble	Solid	DI Leach	
BH05A	Soluble	Solid	DI Leach	
Method Blank	Soluble	Solid	DI Leach	
Lab Control Sample	Soluble	Solid	DI Leach	
Lab Control Sample Dup	Soluble	Solid	DI Leach	
BH04A	Soluble	Solid	DI Leach	
BH04A	Soluble	Solid	DI Leach	
	BH05A Method Blank Lab Control Sample Lab Control Sample Dup BH04A	BH05ASolubleMethod BlankSolubleLab Control SampleSolubleLab Control Sample DupSolubleBH04ASoluble	BH05ASolubleSolidMethod BlankSolubleSolidLab Control SampleSolubleSolidLab Control Sample DupSolubleSolidBH04ASolubleSolid	BH05ASolubleSolidDI LeachMethod BlankSolubleSolidDI LeachLab Control SampleSolubleSolidDI LeachLab Control Sample DupSolubleSolidDI LeachBH04ASolubleSolidDI Leach

#### Leach Batch: 49884

HPLC/IC

Leach Batch: 49876

Lab Sample ID

890-4371-8

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

#### Analysis Batch: 50034

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

#### Analysis Batch: 50035

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

Eurofins Carlsbad

Released to Imaging: 11/17/2023 8:55:05 AM

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

# Lab Sample ID: 890-4371-1

Lab Sample ID: 890-4371-2

Lab Sample ID: 890-4371-3

Lab Sample ID: 890-4371-4

**Client Sample ID: BH01** Date Collected: 03/20/23 13:20 Date Received: 03/21/23 08:15

Client: Ensolum

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

#### **Client Sample ID: BH01A** Date Collected: 03/20/23 13:40

### Date Received: 03/21/23 08:15

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

### **Client Sample ID: BH02**

### Date Collected: 03/20/23 14:00

#### Date Received: 03/21/23 08:15

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

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

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

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Matrix: Solid

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Matrix: Solid

Matrix: Solid

Matrix: Solid

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

Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-4371-4

Lab Sample ID: 890-4371-5

#### Client Sample ID: BH02A Date Collected: 03/20/23 14:20

Date Received: 03/21/23 08:15

Client: Ensolum

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

#### Client Sample ID: BH03 Date Collected: 03/20/23 14:40

### Date Received: 03/20/23 14:40

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

### **Client Sample ID: BH03A**

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

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

### Client Sample ID: BH04

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

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

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Matrix: Solid

# 31/23 00:35 SMC EET MID Lab Sample ID: 890-4371-6

Lab Sample ID: 890-4371-7

Matrix: Solid
Project/Site: SEMU Permian 37 (Maverick)

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

Lab Sample ID: 890-4371-7

Lab Sample ID: 890-4371-8

Lab Sample ID: 890-4371-9

#### **Client Sample ID: BH04** Date Collected: 03/20/23 15:20

Client: Ensolum

Date Received: 03/21/23 08:15

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

#### **Client Sample ID: BH04A**

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

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

#### Client Sample ID: BH05 Date Collected: 03/20/23 16:00

#### Date Received: 03/21/23 08:15

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

## **Client Sample ID: BH05A** Date Collected: 03/20/23 16:20

Date Received: 03/21/23 08:15

# Lab Sample ID: 890-4371-10

Matrix: Solid

Matrix: Solid

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

Eurofins Carlsbad

Matrix: Solid

Matrix: Solid

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#### Released to Imaging: 11/17/2023 8:55:05 AM

Received by OCD: 8/10/2023 3:06:31 PM

#### Lab Chronicle

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

Laboratory References:

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

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

Eurofins Carlsbad

## **Accreditation/Certification Summary**

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		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: SEMU Pe	rmian 37 (Maverick)	)		Job ID: 890-4371-1 SDG: Lea County NM	
Laboratory: Eurofi	ins Midland				3
Unless otherwise noted, all a	analytes for this laborator	y were covered under each acc	reditation/certification below.		
Authority		Program	Identification Number	Expiration Date	
Texas		NELAP	T104704400-22-25	06-30-23	E
The following analytes	are included in this repor	t, but the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes for which	5
the agency does not of					
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM Total BTEX		Solid Solid	Total TPH Total BTEX		
IOUALDIEX		Colid			
					8
					9
					10
					10
					13

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Project/Site: SEMU Permian 37 (Maverick)

Client: Ensolum

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

Method	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
lotal BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
3015NM Prep	Microextraction	SW846	EET MID
OI Leach	Deionized Water Leaching Procedure	ASTM	EET MID
	rences:		

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

Eurofins Carlsbad

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#### Sample Summary

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

Client: Ensolum	ı	Sample Sun	, initial y		Job ID: 890-4371-1
Project/Site: SE	EMU Permian 37 (Maverick)				SDG: Lea County NM
_ab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
390-4371-1	BH01	Solid	03/20/23 13:20	03/21/23 08:15	1'
390-4371-2	BH01A	Solid	03/20/23 13:40	03/21/23 08:15	5'
390-4371-3	BH02	Solid	03/20/23 14:00	03/21/23 08:15	1'
390-4371-4	BH02A	Solid	03/20/23 14:20	03/21/23 08:15	5'
390-4371-5	BH03	Solid	03/20/23 14:40	03/21/23 08:15	1'
390-4371-6	BH03A	Solid	03/20/23 15:00	03/21/23 08:15	5'
390-4371-7	BH04	Solid	03/20/23 15:20	03/21/23 08:15	1'
390-4371-8	BH04A	Solid	03/20/23 15:40	03/21/23 08:15	5'
390-4371-9	BH05	Solid	03/20/23 16:00	03/21/23 08:15	1'
390-4371-10	BH05A	Solid	03/20/23 16:20	03/21/23 08:15	5'

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**Environment Testing** 

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# **Chain of Custody**

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

Work Order No: \_

													-,		www.	xenco.c	om Page	of	
Project Manager:	Kale	Jenning	s			Bill to: (if	different)		Kalei Jennings Work Order Comments										
Company Name:	1	lum, LLC				Company	y Name:		Ensol	um, LL	.c		Program	Program: UST/PST PRP Brownfields RRC Superfund					
Address:	601	N Marient	feld St S	uite 400		Address:			601 N	Marie	nfeld	St Suite 400	State of Project:						
City, State ZIP:	-	and, TX 7				City, Stat	e ZIP:		Midla	nd, TX	7970	1		Reporting: Level II _ Level III _ PST/UST _ TRRP _ Level IV					
Phone:		683-2503			Email:	1		solum	.com.	dnika	anoro	v@ensolum.com	Deliveral	Deliverables: EDD ADaPT Other:					
	1																Preser	vative Codes	
Project Name:	SE			(Maverick)	Routine	Around		Pres.			-						None: NO	DI Water: H <sub>2</sub> 0	
Project Number:			020570					Code									Cool: Cool	MeOH: Me	
Project Location:			County,		Due Date:												HCL: HC	HNO <sub>3</sub> : HN	
Sampler's Name:		Dmitr	y Nikan	orov	TAT starts th the lab, if rec			-					1 1	1	1 1		H2S04: H2	NaOH: Na	
PO #:				0)				Parameters									H <sub>3</sub> PO <sub>4</sub> : HP		
SAMPLE RECE		Temp		Yes No	Wet ice:	1 mile -	No	ame	(0.0)										
Samples Received I Cooler Custody Sea		Yes Yes N	NO N/A	Thermometer Correction Fa		Inn	151	Par	CHLORIDES (EPA: 300.0)								Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : Na		
Sample Custody Sea		Yes N	1/	Temperature		- U	3		(EP¢			890-4371 Chain of	f Custody	Custody			Zn Acetate+I	NaOH: Zn	
Total Containers:	ais.	Tes IN		Corrected Te		4	D		DES	2)	121	030-4071 011411 01					NaOH+Asco	rbic Acid: SAPC	
Total Containero.			1	Date	Time		Grab/	# of	ORIC	TPH (8015)	BTEX (8021						Some	e Comments	
Sample Ide	ntificat	tion	Matrix	Sampled	Sampled	Depth	Comp	Cont	GHL	HdT	BTE						Samp	e comments	
BH	01		s	3/20/2023	13:20	1'	Grab	1	Х	X	Х								
BH0	1A		S	3/20/2023	13:40	5'	Grab	1	х	X	X	· ·							
BHO	)2		s	3/20/2023	14:00	1'	Grab	1	X	X	X								
BH0	2A		S	3/20/2023	14:20	5'	Grab	1	X	X	X			_					
BH	03		S	3/20/2023	14:40	1'	Grab	1	X	X	X			_					
BH0	3A		S	3/20/2023	15:00	5'	Grab	1	X	X	X			_					
BHG	04		S	3/20/2023	15:20	1'	Grab	1	X	X	X			_					
BH0	4A		S	3/20/2023	15:40	5'	Grab	1	X	X	X			_	-				
BHO	05		S	3/20/2023	16:00	1'	Grab	1	X	X	X			_					
BHO	5A		S	3/20/2023	16:20	5'	Grab	1	Х	X	X								
Total 200.7 / 6	010	200.8/	6020:	88	CRA 13PF	PM Texa	as 11	AI SI	o As	Ba B	le B	Cd Ca Cr Co Cu Fe F	Pb Mg Mn	Mo Ni I	K Se	Ag SiO	2 Na Sr TI Sn	U V Zn	
Circle Method(s) a												Cd Cr Co Cu Pb Mn M					31 / 245.1 / 747		
							_				-	co, its affiliates and subcontracto			ms and c	onditions			
			e. 11	A of encoder and	aball not annual		oneihilih	for any	DAREAL	or eyne	inses in	curred by the client if such losses (enco, but not analyzed. These te	s are due to circi	Imstances	beyonu i	ne control	ited.		
			5.00 will be				or each st	ampiès				Relinguished by: (Sig				oy: (Sign		Date/Time	
Relinquished by	y: (Sig	inature)	13-		d by: (Signa	ture)		-1	1	/Time			mature)	- Neu	CIVEU L	y. (orgin			
· DN			Ar	read	a. 5.1	lif-		3/	211-	12	0	\$15							
1						0			_	_		4							
1												6				_		Data 08/05/0020 Bay 20	

AM

Released to Imaging: 11/17/2023 8:55:05

PM

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

List Source: Eurofins Carlsbad

#### Login Sample Receipt Checklist

Client: Ensolum

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

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	

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

List Source: Eurofins Midland

List Creation: 03/22/23 11:06 AM

#### Login Sample Receipt Checklist

Client: Ensolum

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

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

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

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APPENDIX E

**NMOCD** Notifications

From:	Enviro, OCD, EMNRD
То:	Kalei Jennings
Cc:	Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject:	RE: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 3/20/2023)
Date:	Thursday, March 16, 2023 8:16:44 AM
Attachments:	image005.jpg image006.png image007.png image008.png image009.png

#### [ \*\*EXTERNAL EMAIL\*\*]

Kalei,

Kalei,

Thank you for the notification. The notification requirement is two full business days which for sampling on Monday would be at the lates at the end of the workday on Wednesday. If you can please provide specific times and dates of sampling in all future communications also, please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you for your cooperation.

JΗ

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



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

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

All,

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

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

Thank you,



Kalei Jennings Senior Scientist 817-683-2503 Ensolum, LLC



APPENDIX F

Form C-141

Released to Imaging: 11/17/2023 8:55:05 AM

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

)

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Application ID	

# **Release Notification**

## **Responsible Party**

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

## **Location of Release Source**

Latitude 32.5566346\_

(NAD 83 in decimal degrees to 5 decimal places)

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

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

Surface Owner: State Federal Tribal X Private (Name:

## Nature and Volume of Release

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

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

Cause of Release

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

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Oil	Conse	ervatic	n Di	vision

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Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
🗌 Yes 🖾 No	
If YES, was immediate no	otice 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

 $\square$  The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name:Bryce Wagoner	Title:Permian HSE Specialist II
Signature:	Date:2/17/2023
email:Bryce.Wagoner@mavresources.com	Telephone:928-241-1862
OCD Only	
Received by:	Date:

	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 <sup>2</sup> )	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	20.0	25.0	2.0	4.0	0.20	500.0	0.0	3.7	0.74	2.97
Rectangle B	15.0	25.0	2.0	3.0	0.20	375.0	0.1	3.7	0.74	2.97
Rectangle C	10.0	15.0	2.00	3.00	0.20	150.000	0.056	1.483	0.08	1.19
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
						Total Vol	ume (bbls):	8.90	1.57	7.12

				Sul	osurface Fluids	6				
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) *10% in consolidated sediments after rain to 50% in sand with no precipitation	Oil-Water Ratio (%)	Area (ft²)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	20.0	25.0	6.0	0.1	0.20	500.0	44.5	4.5	0.89	3.6
Rectangle B	15.0	25.0	6.0	0.1	0.20	375.0	33.4	3.3	0.67	2.7
Rectangle C	10.0	15.0	6.0	0.1	0.20	150.0	13.4	1.3	0.27	1.1
Rectangle D						0.0	0.0	0.0	0.00	0.0
Rectangle E						0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
	Total Volume (bbls							9.12	1.82	7.30

TOTAL RELEASE VOLUME (bbls): 18.0

**Released to Imaging: 11/17/2023 8:55:05 AM** 

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Oil Conservation Division

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# Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>51-100 (f</u> eet 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 <b>not</b> 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
- $\boxtimes$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-mile of the lateral extents of the release
- $\boxtimes$  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.

Received by OCL	D: 8/10/2023 3:06:31 PM State of New Mexico			Page 89 of 91
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			Facility ID	
			Application ID	
regulations all op public health or t failed to adequat addition, OCD ad and/or regulation Printed Name: Signature:	Bryce Wagoner	otifications and perform co OCD does not relieve the reat to groundwater, surfa	prective actions for rele e operator of liability sho ce water, human health iance with any other fee Specialist II	ases which may endanger ould their operations have or the environment. In leral, state, or local laws
OCD Only	Shally Walls	Date: _8/11/2	2023	
Received by: _		Date:		

Received by OCD: 8/10/2023 3:06:31 PM Form C-141 State of New Mexico

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Oil Conservation Division

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Application ID	

# **Remediation Plan**

Remediation Plan Checklist: Each of the following items must be included in the plan. Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points  $\boxtimes$ Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Bryce Wagoner Title: Permian HSE Specialist II Signature: Date: 08/07/2023 email: Bryce.Wagoner@mavresources.com\_\_\_\_\_ Telephone: 928-241-1862 **OCD Only** Received by: Shelly Wells Date: 8/11/2023 Approved Approved with Attached Conditions of Approval Denied Deferral Approved Nelson Velez 11/17/2023 Date: Signature:

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

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

#### CONDITIONS

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

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Action 250698

CONDITIONS