



September 2, 2022

District I
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, New Mexico 88240

**Re: Remediation Work Plan
East Vacuum Grayburg – San Andreas Unit #020
Incident Number NAPP2221675703
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Natural Resources, LLC (Maverick), has prepared the following Remediation Work Plan (Work Plan) to document site assessment and soil sampling activities completed to date and propose additional delineation of the extent of the release at the East Vacuum Grayburg – San Andreas Unit #020 (Site), resulting from a flow line release of crude oil and produced water into the surrounding pasture. The following Work Plan proposes lateral and vertical delineation of the release.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit O, Section 28, Township 17 South, Range 35 East, in Lea County, New Mexico (32.80302° N, 103.45896° W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On June 6, 2022, a hole in the poly flowline resulted in the release of approximately 35 barrels (bbls) of produced water and 2 bbls of crude oil into the pasture where fluids pooled. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 19 bbls of produced water and 1 bbl of crude oil 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 June 6, 2022. The release was assigned Incident Number NAPP2221675703.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) 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 50 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well L-05362, located

approximately 0.2 miles southeast of the Site. The groundwater well has a reported depth to groundwater of 80 feet bgs and a total depth of 140 feet bgs. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a playa lake, located approximately 490 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- 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

On August 2, 2022, personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five preliminary soil samples (SS01 through SS05) were collected within the release extent at a depth of approximately 0.5 feet bgs. The preliminary soil samples were field screened for volatile aromatic hydrocarbons utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary 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 preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of 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

Laboratory analytical results for preliminary soil sample SS01 indicated TPH-GRO/TPH-DRO, TPH, and chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS02 through SS05 indicated concentrations of all COCs were compliant with the Site Closure Criteria; however, laboratory analytical results for SS01 through SS05 did indicate TPH and chloride concentrations exceeded the reclamation requirements.

Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, delineation activities appear to be warranted to define the vertical and lateral extents of impacts to soil following the June 6, 2022 release.

PROPOSED REMEDIATION WORK PLAN

The results from the preliminary soil sampling suggest soil containing elevated TPH-GRO/TPH-DRO, TPH, and/or chloride concentrations is present across portions of the 9,182 square foot release area.

Maverick requests approval to complete the following remediation activities:

- Lateral and vertical delineation of impacted soil to below the Site Closure Criteria and reclamation requirement. Proposed delineation points are depicted on Figure 3; however, they are representative locations and may adjust based on the situation of active subsurface utilities or above-ground pipelines that may interfere with advancement.
- Soil samples will be field screened for volatile aromatic hydrocarbons and chloride. Soils samples exhibiting the highest field screening concentrations and deepest depths from each sample location will be submitted for laboratory analysis of BTEX, TPH, and chloride.
- Following successful lateral and vertical delineation through laboratory analytical results, Maverick will proceed with providing NMOCD an addendum Work Plan detailing delineation results and proposing additional remedial action, if applicable, based on results of delineation activities.

Maverick will complete the delineation activities within 60 days of the date of approval of this Work Plan by the NMOCD. A Work Plan Addendum detailing remedial action will be submitted within 30 days of receipt of laboratory analytical results. Maverick believes the scope of work described above will meet requirements set forth in 19.15.29.13 NMAC and are protective of human health, the environment, and groundwater. As such, Maverick respectfully requests approval of this Work Plan from NMOCD.

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

Sincerely,
Ensolum, LLC



Kalei Jennings
Senior Scientist



Daniel Moir, PG
Senior Managing Geologist

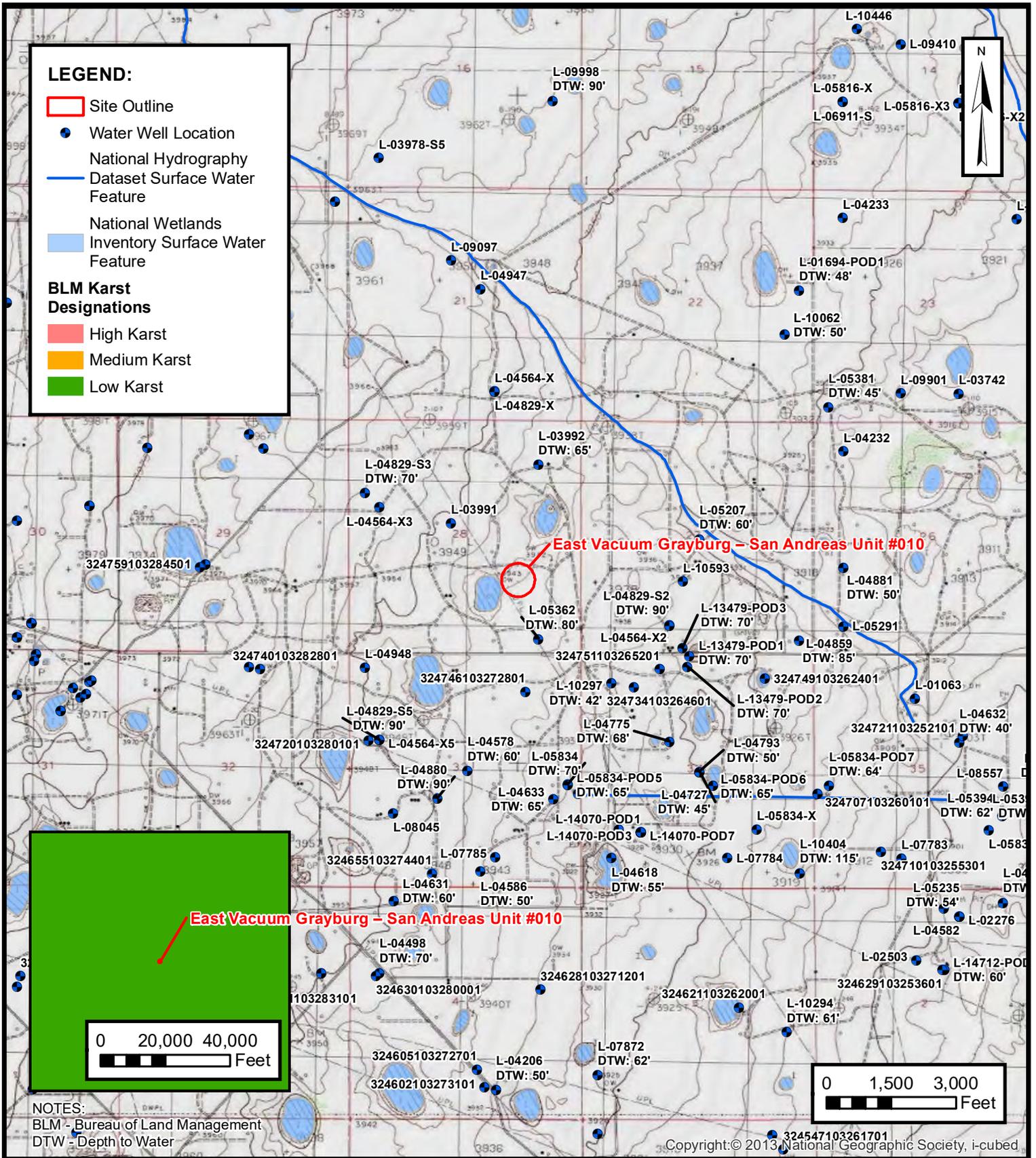
cc: Bryce Wagoner, Maverick Natural Resources, LLC
New Mexico State Land Office

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Proposed Delineation Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix D	Final C-141



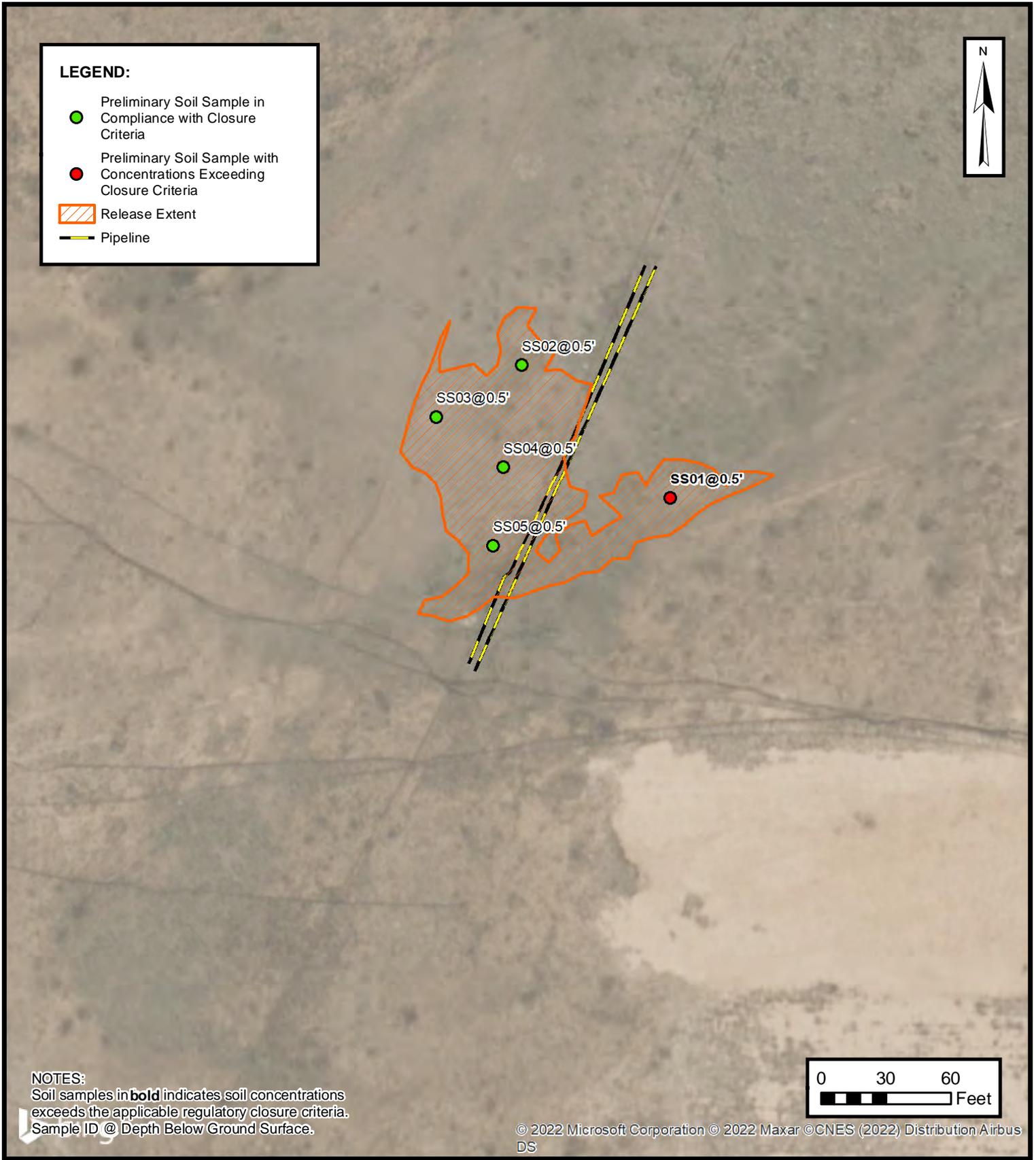
FIGURES



SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
 EAST VACUUM GRAYBURG – SAN ANDREAS UNIT #010
 NAPP2221675703
 Un it O, Sec 28, T17S, R35E
 Lea County, New Mexico

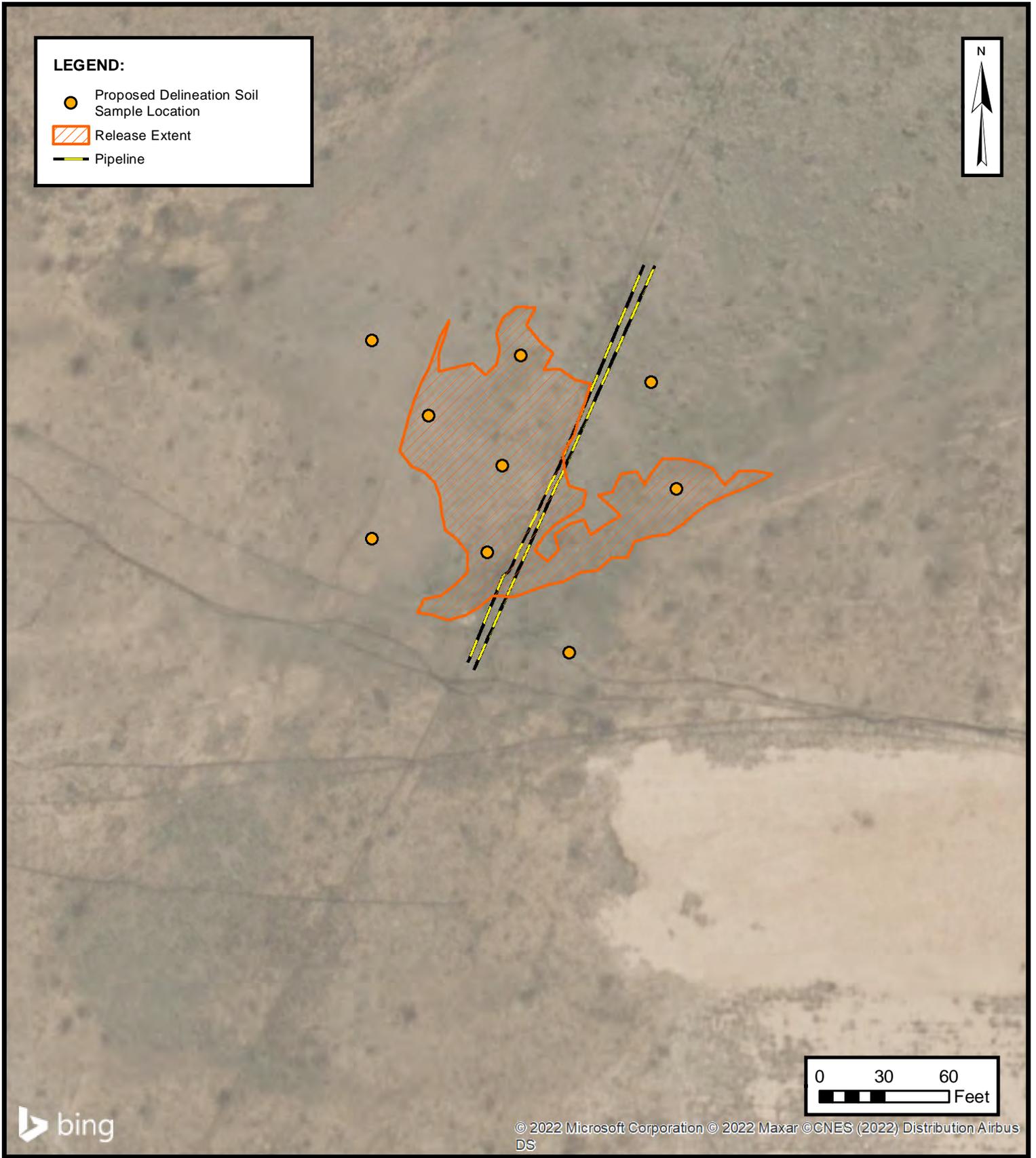
FIGURE
1



PRELIMINARY SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
 EAST VACUUM GRAYBURG - SAN ANDREAS UNIT #010
 NAPP2221675703
 Unit O, Sec 28, T17S, R35E
 Lea County, New Mexico

FIGURE
2



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ENSOLUM
Environmental & Hydrogeologic Consultants

PROPOSED DELINEATION SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
EAST VACUUM GRAYBURG - SAN ANDREAS UNIT #010
NAPP2221675703
Unit O, Sec 28, T17S, R35E
Lea County, New Mexico

FIGURE
3



TABLES



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
East Vacuum Grayburg - San Andreas Unit #010
Maverick Natural Resources, LLC
Lea County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Preliminary Assessment Soil Samples										
SS01	08/02/2022	0.5	<0.00199	<0.00398	<50.0	3,590	405	3,590	4,000*	10,600*
SS02	08/02/2022	0.5	<0.00198	<0.00397	<49.9	608	81.6	608	690*	9,440*
SS03	08/02/2022	0.5	<0.00202	<0.00403	<49.9	92.0	<49.9	92.0	92.0*	7,310*
SS04	08/02/2022	0.5	<0.00200	<0.00401	<50.0	237	<50.0	237	237*	8,390*
SS05	08/02/2022	0.5	<0.00200	<0.00400	<50.0	179	<50.0	179	179*	7,850*

Notes:

bgs: below ground surface
 mg/kg: milligrams per kilogram
 NMOCD: New Mexico Oil Conservation Division
 BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
 Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics
 DRO: Diesel Range Organics
 ORO: Oil Range Organics
 TPH: Total Petroleum Hydrocarbon
 * indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard for chloride in the top 4 feet is 600 mg/kg



APPENDIX A

Referenced Well Records



Point of Diversion Summary

Well Tag **POD Number** (quarters are 1=NW 2=NE 3=SW 4=SE)
 L 05362 (quarters are smallest to largest) (NAD83 UTM in meters)
Q64 Q16 Q4 Sec Tws Rng **X** **Y**
 3 4 4 28 17S 35E 644444 3630117* 

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY
Driller Name: MURRELL ABBOTT
Drill Start Date: 04/02/1964 **Drill Finish Date:** 04/02/1964 **Plug Date:** 01/15/1965
Log File Date: 04/16/1964 **PCW Rcv Date:** **Source:** Shallow
Pump Type: **Pipe Discharge Size:** **Estimated Yield:**
Casing Size: 7.00 **Depth Well:** 140 feet **Depth Water:** 80 feet

Water Bearing Stratifications:	Top	Bottom	Description
	80	140	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	80	140

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/1/22 9:12 AM

POINT OF DIVERSION SUMMARY

Lea County, New Mexico

Latitude 32°47'23", Longitude 103°27'14" NAD27

Land-surface elevation 3,935.00 feet above NGVD29

The depth of the well is 234 feet below land surface.

This well is completed in the High Plains aquifer (N100HGHLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) 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
1986-01-16			D 62610		3870.92	NGVD29	1	Z			A
1986-01-16			D 62611		3872.39	NAVD88	1	Z			A
1986-01-16			D 72019	64.08			1	Z			A
1990-12-20			D 62610		3868.06	NGVD29	1	Z			A
1990-12-20			D 62611		3869.53	NAVD88	1	Z			A
1990-12-20			D 72019	66.94			1	Z			A



APPENDIX B

Photographic Log



Photographic Log

Maverick Natural Resources, LLC
East Vacuum Grayburg - San Andres Unit #010
Incident Number NAPP2221675703

Date & Time: Tue, Aug 02, 2022, 09:31:36 MDT
Position: -032.803144° / -103.459779° (-16.4ft)
Altitude: 3947ft (+31.2ft)
Datum: WGS-84
Azimuth/Bearing: 009° N09E 0053mils True (+13°)
Elevation Angle: +04.3°
Horizon Angle: +00.8°
Zoom: 0.5X
release



Date & Time: Tue, Aug 02, 2022, 09:32:09 MDT
Position: -032.803168° / -103.459229° (-16.4ft)
Altitude: 3946ft (+31.2ft)
Datum: WGS-84
Azimuth/Bearing: 051° N51E 0907mils True (+13°)
Elevation Angle: +09.2°
Horizon Angle: +02.1°
Zoom: 0.5X
release



Photograph 1 Date: August 2, 2022
Description: Photo of initial release extent, facing northeast.

Photograph 2 Date: August 2, 2022
Description: Photo of initial release extent, facing northeast.

Date & Time: Tue, Aug 02, 2022, 09:32:54 MDT
Position: -032.803585° / -103.459213° (-16.4ft)
Altitude: 3944ft (+31.2ft)
Datum: WGS-84
Azimuth/Bearing: 144° S36E 3560mils True (+13°)
Elevation Angle: +06.6°
Horizon Angle: +01.6°
Zoom: 0.5X
release



Date & Time: Tue, Aug 02, 2022, 09:33:40 MDT
Position: -032.803523° / -103.458897° (-16.4ft)
Altitude: 3943ft (+31.2ft)
Datum: WGS-84
Azimuth/Bearing: 216° S36W 3822mils True (+13°)
Elevation Angle: +04.5°
Horizon Angle: +00.4°
Zoom: 0.5X
release



Photograph 3 Date: August 2, 2022
Description: Photo of initial release extent, facing southeast.

Photograph 4 Date: August 2, 2022
Description: Photo of initial release extent, facing southwest.



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2705-1
Laboratory Sample Delivery Group: 03D2024020
Client Project/Site: EVGSAU 2801

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

Attn: Kalei Jennings

Authorized for release by:
8/12/2022 7:58:03 AM

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

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

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

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

Client: Ensolum
Project/Site: EVGSAU 2801

Laboratory Job ID: 890-2705-1
SDG: 03D2024020

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Definitions/Glossary

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Job ID: 890-2705-1

Laboratory: Eurofins Carlsbad**Narrative****Job Narrative
890-2705-1****Receipt**

The samples were received on 8/2/2022 3:53 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31669 and analytical batch 880-31654 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS02 (890-2705-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31669 and analytical batch 880-31654 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-2706-A-1-A), (890-2706-A-1-B MS) and (890-2706-A-1-C MSD). 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: SS02 (890-2705-2). 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: SS04 (890-2705-4). 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) recoveries for preparation batch 880-31555 and analytical batch 880-31531 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31559 and analytical batch 880-31937 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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



Client Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Client Sample ID: SS01

Lab Sample ID: 890-2705-1

Date Collected: 08/02/22 10:00

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/07/22 12:02	08/08/22 06:30	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/07/22 12:02	08/08/22 06:30	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/07/22 12:02	08/08/22 06:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/07/22 12:02	08/08/22 06:30	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/07/22 12:02	08/08/22 06:30	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/07/22 12:02	08/08/22 06:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	08/07/22 12:02	08/08/22 06:30	1
1,4-Difluorobenzene (Surr)	97		70 - 130	08/07/22 12:02	08/08/22 06:30	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/08/22 16:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	4000		50.0	mg/Kg			08/08/22 11:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/06/22 04:23	1
Diesel Range Organics (Over C10-C28)	3590		50.0	mg/Kg		08/05/22 09:50	08/06/22 04:23	1
Oil Range Organics (Over C28-C36)	405		50.0	mg/Kg		08/05/22 09:50	08/06/22 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	08/05/22 09:50	08/06/22 04:23	1
o-Terphenyl	109		70 - 130	08/05/22 09:50	08/06/22 04:23	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10600		100	mg/Kg			08/12/22 05:00	20

Client Sample ID: SS02

Lab Sample ID: 890-2705-2

Date Collected: 08/02/22 10:10

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		08/07/22 12:02	08/08/22 06:50	1
Toluene	<0.00198	U	0.00198	mg/Kg		08/07/22 12:02	08/08/22 06:50	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		08/07/22 12:02	08/08/22 06:50	1
m-Xylene & p-Xylene	<0.00397	U	0.00397	mg/Kg		08/07/22 12:02	08/08/22 06:50	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		08/07/22 12:02	08/08/22 06:50	1
Xylenes, Total	<0.00397	U	0.00397	mg/Kg		08/07/22 12:02	08/08/22 06:50	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Client Sample ID: SS02

Lab Sample ID: 890-2705-2

Date Collected: 08/02/22 10:10

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	156	S1+	70 - 130	08/07/22 12:02	08/08/22 06:50	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/07/22 12:02	08/08/22 06:50	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			08/08/22 16:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	690		49.9	mg/Kg			08/08/22 11:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/05/22 09:50	08/06/22 04:45	1
Diesel Range Organics (Over C10-C28)	608		49.9	mg/Kg		08/05/22 09:50	08/06/22 04:45	1
Oil Range Organics (Over C28-C36)	81.6		49.9	mg/Kg		08/05/22 09:50	08/06/22 04:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	67	S1-	70 - 130	08/05/22 09:50	08/06/22 04:45	1
o-Terphenyl	75		70 - 130	08/05/22 09:50	08/06/22 04:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9440		100	mg/Kg			08/12/22 05:09	20

Client Sample ID: SS03

Lab Sample ID: 890-2705-3

Date Collected: 08/02/22 10:20

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/07/22 12:02	08/08/22 07:11	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/07/22 12:02	08/08/22 07:11	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/07/22 12:02	08/08/22 07:11	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		08/07/22 12:02	08/08/22 07:11	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		08/07/22 12:02	08/08/22 07:11	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		08/07/22 12:02	08/08/22 07:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/07/22 12:02	08/08/22 07:11	1
1,4-Difluorobenzene (Surr)	94		70 - 130	08/07/22 12:02	08/08/22 07:11	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			08/08/22 16:27	1

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Client Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Client Sample ID: SS03

Lab Sample ID: 890-2705-3

Date Collected: 08/02/22 10:20

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	92.0		49.9	mg/Kg			08/08/22 11:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		08/05/22 09:50	08/06/22 05:07	1
Diesel Range Organics (Over C10-C28)	92.0		49.9	mg/Kg		08/05/22 09:50	08/06/22 05:07	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		08/05/22 09:50	08/06/22 05:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130			08/05/22 09:50	08/06/22 05:07	1
o-Terphenyl	88		70 - 130			08/05/22 09:50	08/06/22 05:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7310		49.5	mg/Kg			08/12/22 05:37	10

Client Sample ID: SS04

Lab Sample ID: 890-2705-4

Date Collected: 08/02/22 10:30

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		08/07/22 12:02	08/08/22 07:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			08/07/22 12:02	08/08/22 07:31	1
1,4-Difluorobenzene (Surr)	92		70 - 130			08/07/22 12:02	08/08/22 07:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			08/08/22 16:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	237		50.0	mg/Kg			08/08/22 11:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/06/22 05:29	1
Diesel Range Organics (Over C10-C28)	237		50.0	mg/Kg		08/05/22 09:50	08/06/22 05:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/06/22 05:29	1

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Client Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Client Sample ID: SS04

Lab Sample ID: 890-2705-4

Date Collected: 08/02/22 10:30

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	60	S1-	70 - 130	08/05/22 09:50	08/06/22 05:29	1
o-Terphenyl	70		70 - 130	08/05/22 09:50	08/06/22 05:29	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8390		49.7	mg/Kg			08/12/22 05:46	10

Client Sample ID: SS05

Lab Sample ID: 890-2705-5

Date Collected: 08/02/22 10:40

Matrix: Solid

Date Received: 08/02/22 15:53

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:52	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:52	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/07/22 12:02	08/08/22 07:52	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 07:52	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/07/22 12:02	08/08/22 07:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	08/07/22 12:02	08/08/22 07:52	1
1,4-Difluorobenzene (Surr)	95		70 - 130	08/07/22 12:02	08/08/22 07:52	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			08/08/22 16:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	179		50.0	mg/Kg			08/08/22 11:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/06/22 05:50	1
Diesel Range Organics (Over C10-C28)	179		50.0	mg/Kg		08/05/22 09:50	08/06/22 05:50	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/06/22 05:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	08/05/22 09:50	08/06/22 05:50	1
o-Terphenyl	96		70 - 130	08/05/22 09:50	08/06/22 05:50	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7850		49.9	mg/Kg			08/12/22 05:55	10

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Surrogate Summary

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2689-A-13-E MS	Matrix Spike	114	95
890-2689-A-13-F MSD	Matrix Spike Duplicate	120	94
890-2705-1	SS01	117	97
890-2705-2	SS02	156 S1+	95
890-2705-3	SS03	115	94
890-2705-4	SS04	115	92
890-2705-5	SS05	115	95
LCS 880-31669/1-A	Lab Control Sample	100	99
LCSD 880-31669/2-A	Lab Control Sample Dup	101	101
MB 880-31602/5-A	Method Blank	95	80
MB 880-31669/5-A	Method Blank	130	111

Surrogate Legend

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2705-1	SS01	103	109
890-2705-2	SS02	67 S1-	75
890-2705-3	SS03	76	88
890-2705-4	SS04	60 S1-	70
890-2705-5	SS05	84	96
890-2706-A-1-B MS	Matrix Spike	68 S1-	67 S1-
890-2706-A-1-C MSD	Matrix Spike Duplicate	63 S1-	65 S1-
LCS 880-31555/2-A	Lab Control Sample	89	96
LCSD 880-31555/3-A	Lab Control Sample Dup	89	97
MB 880-31555/1-A	Method Blank	83	101

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31602/5-A
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31602

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/05/22 13:42	08/07/22 13:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/05/22 13:42	08/07/22 13:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/05/22 13:42	08/07/22 13:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/05/22 13:42	08/07/22 13:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/05/22 13:42	08/07/22 13:44	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/05/22 13:42	08/07/22 13:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130	08/05/22 13:42	08/07/22 13:44	1
1,4-Difluorobenzene (Surr)	80		70 - 130	08/05/22 13:42	08/07/22 13:44	1

Lab Sample ID: MB 880-31669/5-A
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31669

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 00:21	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 00:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 00:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/07/22 12:02	08/08/22 00:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/07/22 12:02	08/08/22 00:21	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/07/22 12:02	08/08/22 00:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	08/07/22 12:02	08/08/22 00:21	1
1,4-Difluorobenzene (Surr)	111		70 - 130	08/07/22 12:02	08/08/22 00:21	1

Lab Sample ID: LCS 880-31669/1-A
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1009		mg/Kg		101	70 - 130
Toluene	0.100	0.09893		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.09835		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1984		mg/Kg		99	70 - 130
o-Xylene	0.100	0.1126		mg/Kg		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-31669/2-A
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31669

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1023		mg/Kg		102	70 - 130	1	35

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QC Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

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

Lab Sample ID: LCSD 880-31669/2-A
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31669

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit	
Toluene	0.100	0.1004		mg/Kg		100	70 - 130	2	35	
Ethylbenzene	0.100	0.1014		mg/Kg		101	70 - 130	3	35	
m-Xylene & p-Xylene	0.200	0.2043		mg/Kg		102	70 - 130	3	35	
o-Xylene	0.100	0.1134		mg/Kg		113	70 - 130	1	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	101		70 - 130							
1,4-Difluorobenzene (Surr)	101		70 - 130							

Lab Sample ID: 890-2689-A-13-E MS
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00202	U	0.100	0.1058		mg/Kg		105	70 - 130		
Toluene	<0.00202	U	0.100	0.1129		mg/Kg		112	70 - 130		
Ethylbenzene	<0.00202	U	0.100	0.1179		mg/Kg		117	70 - 130		
m-Xylene & p-Xylene	<0.00403	U	0.201	0.2446		mg/Kg		122	70 - 130		
o-Xylene	<0.00202	U F1	0.100	0.1369	F1	mg/Kg		136	70 - 130		
		MS	MS								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	114		70 - 130								
1,4-Difluorobenzene (Surr)	95		70 - 130								

Lab Sample ID: 890-2689-A-13-F MSD
Matrix: Solid
Analysis Batch: 31654

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	<0.00202	U	0.100	0.1039		mg/Kg		104	70 - 130	2	35
Toluene	<0.00202	U	0.100	0.1120		mg/Kg		112	70 - 130	1	35
Ethylbenzene	<0.00202	U	0.100	0.1218		mg/Kg		122	70 - 130	3	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.2532		mg/Kg		126	70 - 130	3	35
o-Xylene	<0.00202	U F1	0.100	0.1413	F1	mg/Kg		141	70 - 130	3	35
		MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	120		70 - 130								
1,4-Difluorobenzene (Surr)	94		70 - 130								

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

Lab Sample ID: MB 880-31555/1-A
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31555

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/05/22 20:48		1

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QC Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

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

Lab Sample ID: MB 880-31555/1-A
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31555

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/05/22 20:48	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/05/22 09:50	08/05/22 20:48	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac		
	%Recovery	Qualifier						
1-Chlorooctane	83		70 - 130	08/05/22 09:50	08/05/22 20:48	1		
o-Terphenyl	101		70 - 130	08/05/22 09:50	08/05/22 20:48	1		

Lab Sample ID: LCS 880-31555/2-A
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Diesel Range Organics (Over C10-C28)	1000	874.1	mg/Kg		87	70 - 130	
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
1-Chlorooctane	89		70 - 130				
o-Terphenyl	96		70 - 130				

Lab Sample ID: LCSD 880-31555/3-A
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics (Over C10-C28)	1000	871.0	mg/Kg		87	70 - 130	0	20	
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	89		70 - 130						
o-Terphenyl	97		70 - 130						

Lab Sample ID: 890-2706-A-1-B MS
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31555

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	833.2	mg/Kg			81	70 - 130
Diesel Range Organics (Over C10-C28)	92.2	F1	999	666.4	F1	mg/Kg		57	70 - 130
Surrogate	MS	MS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	68	S1-	70 - 130						
o-Terphenyl	67	S1-	70 - 130						

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QC Sample Results

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

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

Lab Sample ID: 890-2706-A-1-C MSD
Matrix: Solid
Analysis Batch: 31531

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31555

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	850.8		mg/Kg		83	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	92.2	F1	999	643.6	F1	mg/Kg		55	70 - 130	3	20
Surrogate	%Recovery	MSD Qualifier		MSD							
1-Chlorooctane	63	S1-							70 - 130		
o-Terphenyl	65	S1-							70 - 130		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31559/1-A
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			08/12/22 03:46	1

Lab Sample ID: LCS 880-31559/2-A
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	245.2		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-31559/3-A
Matrix: Solid
Analysis Batch: 31937

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	247.1		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 880-17771-A-1-C MS
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	123		250	380.3		mg/Kg		103	90 - 110

Lab Sample ID: 880-17771-A-1-D MSD
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	123		250	388.2		mg/Kg		106	90 - 110	2	20

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QC Sample Results

Client: Ensolum
 Project/Site: EVGSAU 2801

Job ID: 890-2705-1
 SDG: 03D2024020

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2706-A-3-C MS
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	198	F1	250	448.2		mg/Kg		100	90 - 110

Lab Sample ID: 890-2706-A-3-D MSD
Matrix: Solid
Analysis Batch: 31937

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	198	F1	250	480.5	F1	mg/Kg		113	90 - 110	7	20

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QC Association Summary

Client: Ensolum
Project/Site: EVGSAU 2801Job ID: 890-2705-1
SDG: 03D2024020

GC VOA

Prep Batch: 31602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31602/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 31654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	8021B	31669
890-2705-2	SS02	Total/NA	Solid	8021B	31669
890-2705-3	SS03	Total/NA	Solid	8021B	31669
890-2705-4	SS04	Total/NA	Solid	8021B	31669
890-2705-5	SS05	Total/NA	Solid	8021B	31669
MB 880-31602/5-A	Method Blank	Total/NA	Solid	8021B	31602
MB 880-31669/5-A	Method Blank	Total/NA	Solid	8021B	31669
LCS 880-31669/1-A	Lab Control Sample	Total/NA	Solid	8021B	31669
LCSD 880-31669/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31669
890-2689-A-13-E MS	Matrix Spike	Total/NA	Solid	8021B	31669
890-2689-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31669

Prep Batch: 31669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	5035	
890-2705-2	SS02	Total/NA	Solid	5035	
890-2705-3	SS03	Total/NA	Solid	5035	
890-2705-4	SS04	Total/NA	Solid	5035	
890-2705-5	SS05	Total/NA	Solid	5035	
MB 880-31669/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31669/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31669/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-13-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-13-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	Total BTEX	
890-2705-2	SS02	Total/NA	Solid	Total BTEX	
890-2705-3	SS03	Total/NA	Solid	Total BTEX	
890-2705-4	SS04	Total/NA	Solid	Total BTEX	
890-2705-5	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	8015B NM	31555
890-2705-2	SS02	Total/NA	Solid	8015B NM	31555
890-2705-3	SS03	Total/NA	Solid	8015B NM	31555
890-2705-4	SS04	Total/NA	Solid	8015B NM	31555
890-2705-5	SS05	Total/NA	Solid	8015B NM	31555
MB 880-31555/1-A	Method Blank	Total/NA	Solid	8015B NM	31555
LCS 880-31555/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31555
LCSD 880-31555/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31555
890-2706-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	31555
890-2706-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31555

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QC Association Summary

Client: Ensolum
Project/Site: EVGSAU 2801Job ID: 890-2705-1
SDG: 03D2024020

GC Semi VOA

Prep Batch: 31555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	8015NM Prep	
890-2705-2	SS02	Total/NA	Solid	8015NM Prep	
890-2705-3	SS03	Total/NA	Solid	8015NM Prep	
890-2705-4	SS04	Total/NA	Solid	8015NM Prep	
890-2705-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-31555/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31555/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31555/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2706-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2706-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Total/NA	Solid	8015 NM	
890-2705-2	SS02	Total/NA	Solid	8015 NM	
890-2705-3	SS03	Total/NA	Solid	8015 NM	
890-2705-4	SS04	Total/NA	Solid	8015 NM	
890-2705-5	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Soluble	Solid	DI Leach	
890-2705-2	SS02	Soluble	Solid	DI Leach	
890-2705-3	SS03	Soluble	Solid	DI Leach	
890-2705-4	SS04	Soluble	Solid	DI Leach	
890-2705-5	SS05	Soluble	Solid	DI Leach	
MB 880-31559/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31559/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31559/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17771-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17771-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2706-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2706-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2705-1	SS01	Soluble	Solid	300.0	31559
890-2705-2	SS02	Soluble	Solid	300.0	31559
890-2705-3	SS03	Soluble	Solid	300.0	31559
890-2705-4	SS04	Soluble	Solid	300.0	31559
890-2705-5	SS05	Soluble	Solid	300.0	31559
MB 880-31559/1-A	Method Blank	Soluble	Solid	300.0	31559
LCS 880-31559/2-A	Lab Control Sample	Soluble	Solid	300.0	31559
LCSD 880-31559/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31559
880-17771-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	31559
880-17771-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31559
890-2706-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	31559
890-2706-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31559

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Lab Chronicle

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Client Sample ID: SS01

Lab Sample ID: 890-2705-1

Date Collected: 08/02/22 10:00

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31669	08/07/22 12:02	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31654	08/08/22 06:30	EL	EET MID
Total/NA	Analysis	Total BTEX		1			31809	08/08/22 16:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			31758	08/08/22 11:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31555	08/05/22 09:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31531	08/06/22 04:23	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	31559	08/05/22 10:29	CH	EET MID
Soluble	Analysis	300.0		20			31937	08/12/22 05:00	AJ	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-2705-2

Date Collected: 08/02/22 10:10

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	31669	08/07/22 12:02	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31654	08/08/22 06:50	EL	EET MID
Total/NA	Analysis	Total BTEX		1			31809	08/08/22 16:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			31758	08/08/22 11:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31555	08/05/22 09:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31531	08/06/22 04:45	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	31559	08/05/22 10:29	CH	EET MID
Soluble	Analysis	300.0		20			31937	08/12/22 05:09	AJ	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-2705-3

Date Collected: 08/02/22 10:20

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	31669	08/07/22 12:02	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31654	08/08/22 07:11	EL	EET MID
Total/NA	Analysis	Total BTEX		1			31809	08/08/22 16:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			31758	08/08/22 11:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31555	08/05/22 09:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31531	08/06/22 05:07	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	31559	08/05/22 10:29	CH	EET MID
Soluble	Analysis	300.0		10			31937	08/12/22 05:37	AJ	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-2705-4

Date Collected: 08/02/22 10:30

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31669	08/07/22 12:02	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31654	08/08/22 07:31	EL	EET MID
Total/NA	Analysis	Total BTEX		1			31809	08/08/22 16:27	SM	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: EVGSAU 2801

Job ID: 890-2705-1
 SDG: 03D2024020

Client Sample ID: SS04

Lab Sample ID: 890-2705-4

Date Collected: 08/02/22 10:30

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31758	08/08/22 11:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31555	08/05/22 09:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31531	08/06/22 05:29	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	31559	08/05/22 10:29	CH	EET MID
Soluble	Analysis	300.0		10			31937	08/12/22 05:46	AJ	EET MID

Client Sample ID: SS05

Lab Sample ID: 890-2705-5

Date Collected: 08/02/22 10:40

Matrix: Solid

Date Received: 08/02/22 15:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	31669	08/07/22 12:02	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31654	08/08/22 07:52	EL	EET MID
Total/NA	Analysis	Total BTEX		1			31809	08/08/22 16:27	SM	EET MID
Total/NA	Analysis	8015 NM		1			31758	08/08/22 11:58	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31555	08/05/22 09:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31531	08/06/22 05:50	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31559	08/05/22 10:29	CH	EET MID
Soluble	Analysis	300.0		10			31937	08/12/22 05:55	AJ	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

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

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

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Method Summary

Client: Ensolum
 Project/Site: EVGSAU 2801

Job ID: 890-2705-1
 SDG: 03D2024020

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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



Sample Summary

Client: Ensolum
Project/Site: EVGSAU 2801

Job ID: 890-2705-1
SDG: 03D2024020

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2705-1	SS01	Solid	08/02/22 10:00	08/02/22 15:53	0.5
890-2705-2	SS02	Solid	08/02/22 10:10	08/02/22 15:53	0.5
890-2705-3	SS03	Solid	08/02/22 10:20	08/02/22 15:53	0.5
890-2705-4	SS04	Solid	08/02/22 10:30	08/02/22 15:53	0.5
890-2705-5	SS05	Solid	08/02/22 10:40	08/02/22 15:53	0.5

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2705-1

SDG Number: 03D2024020

Login Number: 2705

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2705-1

SDG Number: 03D2024020

Login Number: 2705

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 08/04/22 10:22 AM

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

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APPENDIX D

Final C-141

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NAPP2221675703
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Thomas Haigood	Contact Telephone: (432) 701-7802
Contact email: Thomas.haigood@mavresources.com	Incident # (assigned by OCD)
Contact mailing address: 5735 SW 7000, Andrews, TX 79714	

Location of Release Source

Latitude: 32.80302

Longitude: -103.45896

(NAD 83 in decimal degrees to 5 decimal places)

Site Name: East Vacuum Grayburg – San Andreas Unit #010	Site Type: Flow line - Pasture
Date Release Discovered: June 06, 2022	API# (if applicable)

Unit Letter	Section	Township	Range	County
SW-SE	28	17S	35E	Lea

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released: 2 bbl.	Volume Recovered: 1 bbl.
<input checked="" type="checkbox"/> Produced Water	Volume Released: 35 bbl.	Volume Recovered: 19 bbl.
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:

The 90 degree steel flow line riser developed a hole due to possible inner corrosion, This allowed approximately 37 bbl. of production fluid to spill onto the ground over the course of a couple hours ultimately covering an area of 60 ft. by 75 ft. in the pasture before being isolated.

State of New Mexico
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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The calculated total volume released was over 25 bbl. total production fluid.
---	--

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc):
Contact was attempted by phone by calling (575) 626-0830 and I left a message. I then emailed OCD.Enviro@state.NM.us at 1:55pm (TX) on June 12th, 2022 and made notification.

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.

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

The release has been stopped and the total area of saturation has been barricaded. No more fluid will spread further. The ruptured line will be repaired and the saturated area will be remediated in accordance with NMOCD EMNRD guidelines

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: Thomas Haigood	Title: Permian HSE Specialist
Signature: <i>Thomas James Haigood</i>	Date: June 06, 2022
email: Thomas.haigood@mavresources.com	Telephone: (432) 701-7802

<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>08/05/2022</u>

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

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

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

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

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

CONDITIONS

Action 131744

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 131744
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	8/5/2022

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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?	_50-100_ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

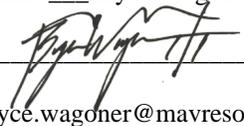
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform 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: 09/04/2022

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

OCD Only

Received by: Jocelyn Harimon Date: 09/06/2022

Incident ID	NAPP2221675703
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Remediation Plan

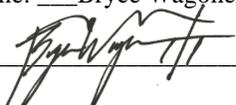
Remediation Plan Checklist: Each of the following items must be included in the plan.

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

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

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Bryce Wagoner Title: Permian HSE Specialist II
 Signature:  Date: 9/04/2022
 email: bryce.wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 09/06/2022

- Approved Approved with Attached Conditions of Approval Denied Deferral Approved

Signature:  Date: 09/09/2022

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Santa Fe, NM 87505

CONDITIONS

Action 140652

CONDITIONS

Operator: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 140652
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved.	9/9/2022