ENSOLUM

August 24, 2022

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

Re: Remediation Work Plan
SEMU BMT
Incident Number NAPP2216134591
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 (RWP) to document the site assessment and soil sampling activities completed to date and propose a work plan to address the residual impacted soil identified at the SEMU BMT (Site). This Work Plan is being provided in response to the release of produced water onto the pad and into the surrounding pasture at the Site. The following Work Plan proposes lateral and vertical delineation of the release and excavation of impacted soil.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 20, Township 20 South, Range 38 East, in Lea County, New Mexico (32.552778° N, 103.175278° W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On May 27, 2022, equipment failure caused a tank to overflow, resulting in the release of approximately 37.8 barrels (bbls) of produced water onto the pad and into the surrounding pasture. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 25 bbls of produced water were recovered. The previous operator, ConocoPhillips Company (COP), reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on June 10, 2022. The release was assigned Incident Number NAPP2216134591.

COP sold the asset to Maverick on June 1, 2022. Field activities at the Site were postponed until the sale of the Site was completed.

SITE CHARATERIZATION 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 (Appendix A), Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be between 51 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 United States Geological Suvery (USGS) well 323325103103601, located approximately 1,660 feet northwest of the Site. The groundwater well has a reported depth to groundwater of 77.5 feet bgs and a total unknown depth. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 12,831 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, and church. The Site 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 greater than 300 feet from a wetland. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH will be applied to the top 4 feet of the pasture area and lease road, 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 July 25, 2022, Ensolum personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Six preliminary soil samples (SS01 through SS06) 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 C.

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 samples SS01, SS02, SS04, and SS06 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS03 and SS05 indicated, TPH concentrations exceeded the Site Closure Criteria. Table 1 summarizes analytical resuts. A complete laboratory anayltical report from the preliminary sampling is inculded as Appendix D.

Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for preliminary soil samples SS03 and SS05, delineation and excavation activities appear to be warranted to address the May 2022 release.

PROPOSED REMEDIATION WORK PLAN

The results from the preliminary soil sampling suggest soil containing elevated TPH concentrations is present across portions of the 2,500 square foot release area.

Maverick requests approval to complete the following remediation activities:

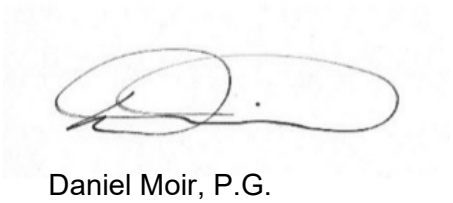
- Lateral and vertical delineation of impacted soil to below the Site Closure Criteria. Delineation points will be representative locations and may adjust based on the situation of active subsurface utilities or above-ground pipelines that may interfere with advancement.
- Soil samples will be field 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 receipt of analytical results from delineation activities, excavation of impacted soil in the vicinity of SS03 and SS05 and any other areas with Closure Criteria exceedances, if applicable, will be completed.
- Upon completion of excavation activities, 5-point composite confirmation soil samples will be collected 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 excavation samples will be submitted for laboratory analysis of BTEX, TPH, and chloride.
- Following successful lateral and vertical delineation and excavation activities through laboratory analytical results, Maverick will proceed with providing NMOCD either an addendum detailing delineation and excavation results and proposing additional remedial action, if applicable, or a closure request.

Maverick will complete the delineation and excavation activities within 90 days of the date of approval of this Work Plan by the NMOCD. A Remediation Work Plan Addendum detailing remedial action, or a Closure request 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 be 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, P.G.
Senior Managing Geologist

cc: Bryce Wagoner, Maverick Natural Resources, LLC
Bureau of Land Management

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Final C-141
Appendix B	Referenced Well Records
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports

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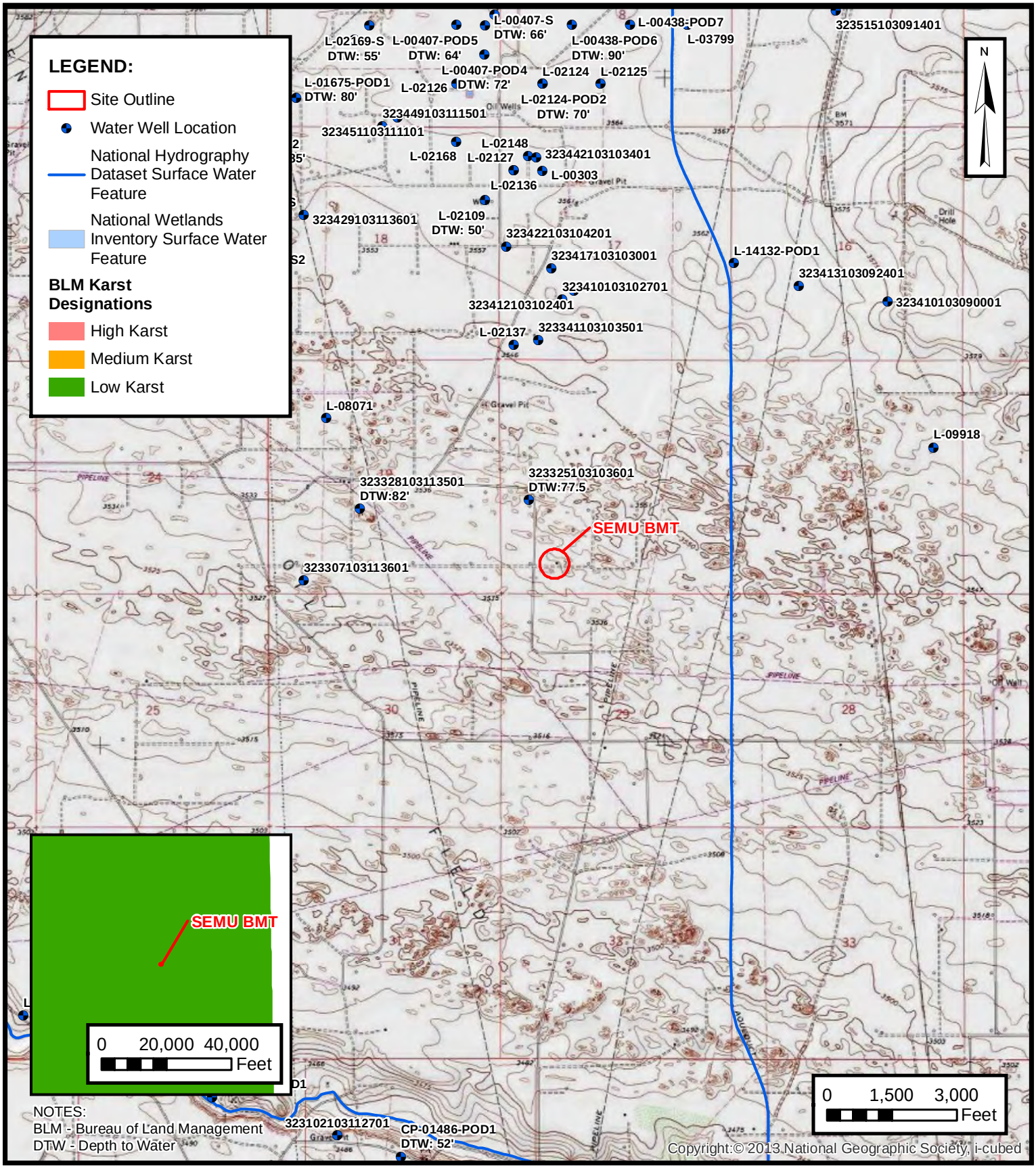
FIGURES



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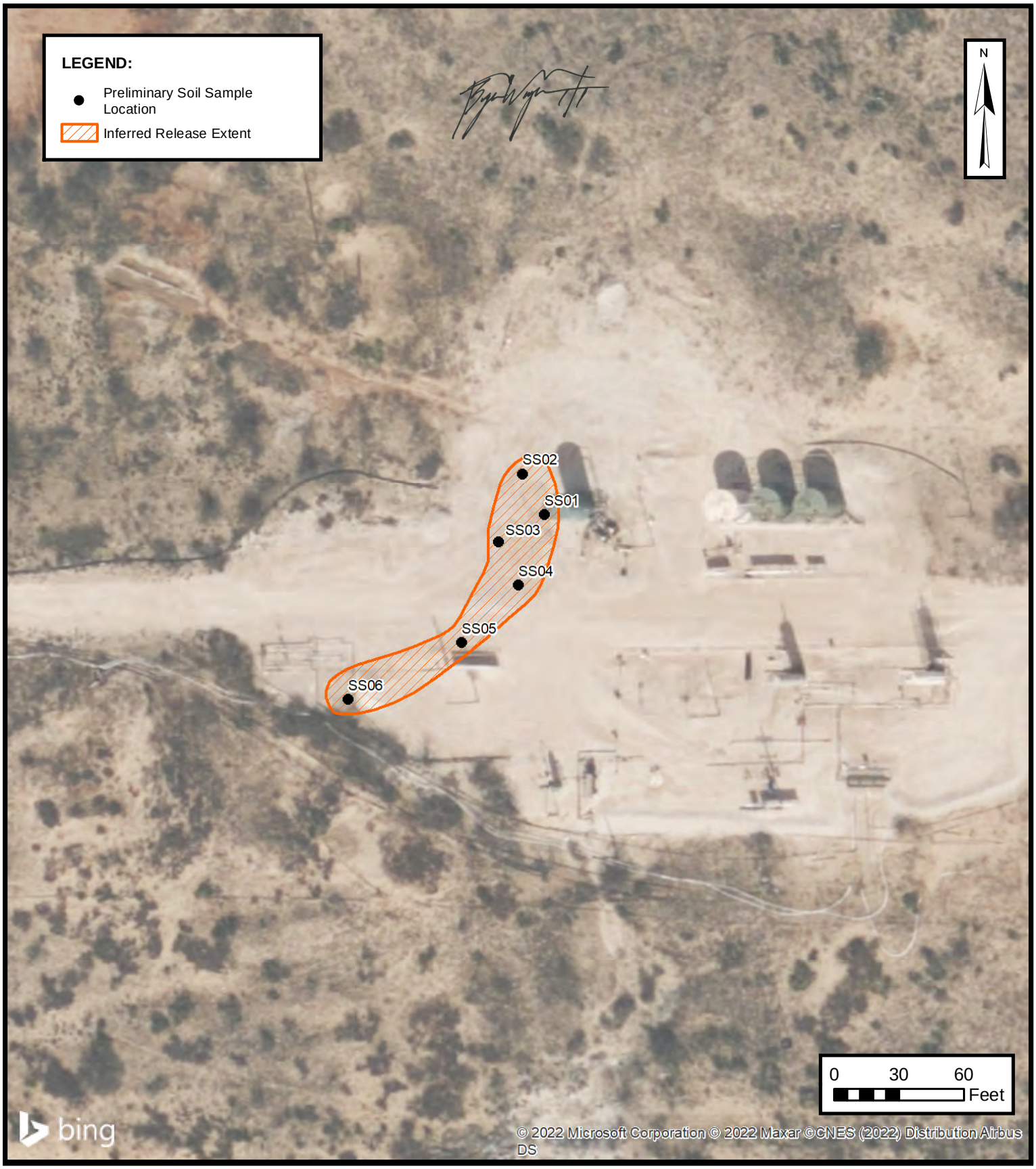
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

MAVERICK NATURAL RESOURCES, LLC
SEMU BMT
NAPP2216134591
Unit M, Sec 20, T20S, R38E
Lea County, New Mexico

FIGURE
1



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Environmental & Hydrogeologic Consultants

PRELIMINARY SOIL SAMPLE LOCATIONS

MAVERICK NATURAL RESOURCES, LLC
SEMU BMT
NAPP2216134591
Unit M, Sec 20, T20S, R38E
Lea County, New Mexico

FIGURE

2

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
SEMU BMT
Maverick Natural Resources, LLC
Lea County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Preliminary Assessment Soil Samples										
SS01	07/25/2022	0.5	<0.00202	<0.00403	<50.0	54.3	<50.0	54.3	54.3	837
SS02	07/25/2022	0.5	<0.00200	<0.00399	<50.0	157	60.0	157	217	1,960
SS03	07/25/2022	0.5	<0.00199	<0.00398	<49.9	2,060	583	**2,060**	**2,640**	4,170
SS04	07/25/2022	0.5	0.00361	0.825	<49.9	121	148	121	269	630
SS05	07/25/2022	0.5	<0.0199	<0.0398	<250	3,750	1,200	**3,750**	**4,950**	3,830
SS06	07/25/2022	0.5	<0.00200	<0.00399	<50.0	154	106	154	260	396

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.

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APPENDIX A

Final C141

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 06/10/2022

L48 Spill Volume Estimate Form

& Number:	SEMU BMT Battery water tank
Asset Area:	HPA03
Release Discovery Date & Time:	5/27/2022 1:40
Release Type:	Produced Water
Provide any known details about the event:	SWD had no power causing tank to fill up and over flow

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?	See reference table below
Has it rained at least a half inch in the last 24 hours?	See reference table below

Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	83.0	46.0	2.50	10.50%	141.584	14.866
Rectangle B	35.0	75.0	0.25	10.50%	9.734	1.022
Rectangle C	142.0	29.0	0.50	10.50%	30.542	3.207
Rectangle D	110.0	49.0	2.00	10.50%	159.903	16.790
Rectangle E	7.0	34.0	3.50	15.16%	12.356	1.873
Rectangle F					0.000	0.000
Rectangle G					0.000	0.000
Rectangle H					0.000	0.000
Rectangle I					0.000	0.000
					0.000	0.000
					Total Volume Release:	37.758

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 115785

CONDITIONS

Operator: CONOCOPHILLIPS COMPANY 600 W. Illinois Avenue Midland, TX 79701	OGRID: 217817
	Action Number: 115785
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	6/10/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2216134591
District RP	
Facility ID	fOY1727735163
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	50-100 feet bgs
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2216134591
District RP	
Facility ID	fOY1727735163
Application ID	

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

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 08/25/2022

email: Bryce.Wagoner@mavsresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 08/25/2022

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2216134591
District RP	
Facility ID	fOY1727735163
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 08/25/2022

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 08/25/2022

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

Signature: Jennifer Nobui Date: 08/31/2022

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APPENDIX B

Referenced Well Records

Click to hideNews Bulletins

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

USGS 323325103103601 20S.38E.20.11431

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°33'25", Longitude 103°10'36" NAD27
Lea County, New Mexico , Hydrologic Unit 13070007
Well depth: not determined.
Land surface altitude: 3,540 feet above NAVD88.
Well completed in "High Plains aquifer" (N100HGHPLN) national aquifer.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1961-02-24	1966-03-08	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

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Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=323325103103601

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2022-08-23 21:47:26 EDT
0.29 0.28 vaww01

Click to hideNews Bulletins

- Attention current WaterAlert users: NextGen WaterAlert is replacing Legacy WaterAlert. You must take action before 9/30/2022 to retain your alerts. Read more.
- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323325103103601

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

USGS 323325103103601 20S.38E.20.11431

Lea County, New Mexico
Latitude 32°33'25", Longitude 103°10'36" NAD27
Land-surface elevation 3,540 feet above NAVD88
This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1961-02-24		D	62610		3464.67	NGVD29	1	Z		
1961-02-24		D	62611		3465.76	NAVD88	1	Z		
1961-02-24		D	72019	74.24			1	Z		
1966-03-08		D	62610		3461.46	NGVD29	1	Z		
1966-03-08		D	62611		3462.55	NAVD88	1	Z		
1966-03-08		D	72019	77.45			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

Section	Code	Description
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-08-22 11:52:33 EDT
0.28 0.25 nadww01

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APPENDIX C

Photographic Log

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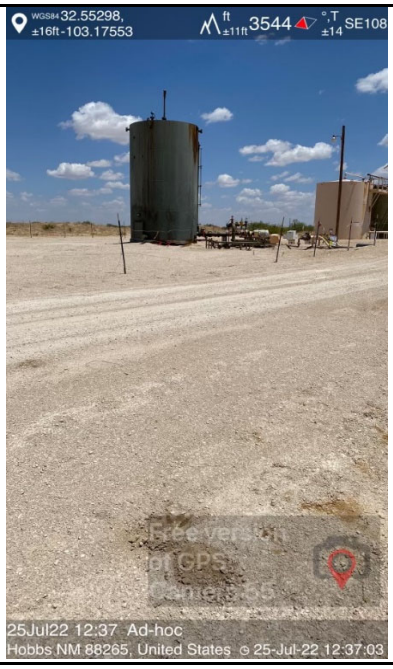
Photographic Log
Maverick Natural Resources, LLC
SEMU BMT
Incident Number NAPP2216134591

Photograph 1 Date: 7/25/2022

Description: Photo of overfilled tank. Photo was taken during the initial site assesment

Photograph 2 Date: 07/25/2022

Description: Photo of release extent taken during initial site assessment.



Photograph 3 Date: 07/25/2022

Description: Photo of release extent taken during initial site assessment.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2645-1
Laboratory Sample Delivery Group: 03D02057013
Client Project/Site: SEMU BMT

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

Attn: Kalei Jennings

JKramer

Authorized for release by:
8/8/2022 4:18:11 PM

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

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

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

Client: Ensolum
Project/Site: SEMU BMT

Laboratory Job ID: 890-2645-1
SDG: 03D02057013

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Definitions/Glossary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
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.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Job ID: 890-2645-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2645-1

Receipt
The samples were received on 7/25/2022 3:26 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 28.2°C

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-2645-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31335 and analytical batch 880-31540 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike duplicate recoveries are unavailable for preparation batch 880-31335 and analytical batch 880-31540. The associated laboratory control sample (LCS) met acceptance criteria.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-31680 and analytical batch 880-31685 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample duplicate (LCSD) recovery was within acceptance limits.

Method 8021B: o-Xylene biased high in LCS. Since only an acceptable LCS or LCSD is required per the method, the data has been qualified and reported.(LCS 880-31680/1-A)

Method 8021B: The following sample was diluted due to the abundance of non-target analytes: SS05 (890-2645-5). 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: The surrogate recovery for the blank associated with preparation batch 880-30964 and analytical batch 880-31081 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-2644-A-1-C). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS01

Date Collected: 07/25/22 11:00
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U F1	0.00202		mg/Kg		08/02/22 14:31	08/05/22 12:08	1
Toluene	<0.00202	U F1	0.00202		mg/Kg		08/02/22 14:31	08/05/22 12:08	1
Ethylbenzene	<0.00202	U *1 F1	0.00202		mg/Kg		08/02/22 14:31	08/05/22 12:08	1
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.00403		mg/Kg		08/02/22 14:31	08/05/22 12:08	1
o-Xylene	**0.00264**	***1 F1**	0.00202		mg/Kg		08/02/22 14:31	08/05/22 12:08	1
Xylenes, Total	<0.00403	U *1 F1	0.00403		mg/Kg		08/02/22 14:31	08/05/22 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*08/02/22 14:31*	*08/05/22 12:08*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/02/22 14:31*	*08/05/22 12:08*	*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 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**54.3**		50.0		mg/Kg			07/30/22 10:17	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		07/28/22 15:45	07/30/22 03:21	1
Diesel Range Organics (Over C10-C28)	**54.3**		50.0		mg/Kg		07/28/22 15:45	07/30/22 03:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/28/22 15:45	07/30/22 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*07/28/22 15:45*	*07/30/22 03:21*	*1*
o-Terphenyl	*126*		*70 - 130*	*07/28/22 15:45*	*07/30/22 03:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**837**		4.97		mg/Kg			07/31/22 13:05	1

Client Sample ID: SS02

Date Collected: 07/25/22 11:05
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 13:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 13:09	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 13:09	1
m-Xylene & p-Xylene	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 13:09	1
o-Xylene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 13:09	1
Xylenes, Total	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/02/22 14:31*	*08/05/22 13:09*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/02/22 14:31*	*08/05/22 13:09*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS02

Date Collected: 07/25/22 11:05
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-2

Matrix: Solid

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**217**		50.0		mg/Kg			07/30/22 10:17	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		07/28/22 15:45	07/30/22 03:43	1
Diesel Range Organics (Over C10-C28)	**157**		50.0		mg/Kg		07/28/22 15:45	07/30/22 03:43	1
Oil Range Organics (Over C28-C36)	**60.0**		50.0		mg/Kg		07/28/22 15:45	07/30/22 03:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*07/28/22 15:45*	*07/30/22 03:43*	*1*
o-Terphenyl	*117*		*70 - 130*	*07/28/22 15:45*	*07/30/22 03:43*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1960**		24.8		mg/Kg			07/31/22 13:15	5

Client Sample ID: SS03

Date Collected: 07/25/22 11:10
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:30	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:30	1
m-Xylene & p-Xylene	<0.00398	U *1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 13:30	1
o-Xylene	<0.00199	U *1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:30	1
Xylenes, Total	<0.00398	U *1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 13:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/02/22 14:31*	*08/05/22 13:30*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*08/02/22 14:31*	*08/05/22 13:30*	*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 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2640**		49.9		mg/Kg			07/30/22 10:17	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		07/28/22 15:45	07/30/22 04:04	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS03
Date Collected: 07/25/22 11:10
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	2060		49.9		mg/Kg		07/28/22 15:45	07/30/22 04:04	1
Oil Range Organics (Over C28-C36)	583		49.9		mg/Kg		07/28/22 15:45	07/30/22 04:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:04*	*1*
o-Terphenyl	*120*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4170		49.8		mg/Kg			07/31/22 13:24	10

Client Sample ID: SS04
Date Collected: 07/25/22 11:30
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.00361		0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:50	1
Toluene	0.0582		0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:50	1
Ethylbenzene	0.156	*1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:50	1
m-Xylene & p-Xylene	0.434	*1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 13:50	1
o-Xylene	0.173	*1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 13:50	1
Xylenes, Total	0.607	*1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*259*	*S1+*	*70 - 130*	*08/02/22 14:31*	*08/05/22 13:50*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/02/22 14:31*	*08/05/22 13:50*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.825		0.00398		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	269		49.9		mg/Kg			07/30/22 10:17	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		07/28/22 15:45	07/30/22 04:25	1
Diesel Range Organics (Over C10-C28)	121		49.9		mg/Kg		07/28/22 15:45	07/30/22 04:25	1
Oil Range Organics (Over C28-C36)	148		49.9		mg/Kg		07/28/22 15:45	07/30/22 04:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:25*	*1*
o-Terphenyl	*122*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:25*	*1*

Client Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS04
Date Collected: 07/25/22 11:30
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**630**		5.01		mg/Kg			07/31/22 13:33	1

Client Sample ID: SS05
Date Collected: 07/25/22 11:35
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0199	U	0.0199		mg/Kg		08/08/22 08:17	08/08/22 15:30	10
Toluene	<0.0199	U	0.0199		mg/Kg		08/08/22 08:17	08/08/22 15:30	10
Ethylbenzene	<0.0199	U	0.0199		mg/Kg		08/08/22 08:17	08/08/22 15:30	10
m-Xylene & p-Xylene	<0.0398	U	0.0398		mg/Kg		08/08/22 08:17	08/08/22 15:30	10
o-Xylene	<0.0199	U *+	0.0199		mg/Kg		08/08/22 08:17	08/08/22 15:30	10
Xylenes, Total	<0.0398	U	0.0398		mg/Kg		08/08/22 08:17	08/08/22 15:30	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*08/08/22 08:17*	*08/08/22 15:30*	*10*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*08/08/22 08:17*	*08/08/22 15:30*	*10*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.0398	U	0.0398		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4950**		250		mg/Kg			07/30/22 10:17	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	<250	U	250		mg/Kg		07/28/22 15:45	07/30/22 04:46	5
Diesel Range Organics (Over C10-C28)	**3750**		250		mg/Kg		07/28/22 15:45	07/30/22 04:46	5
Oil Range Organics (Over C28-C36)	**1200**		250		mg/Kg		07/28/22 15:45	07/30/22 04:46	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:46*	*5*
o-Terphenyl	*117*		*70 - 130*	*07/28/22 15:45*	*07/30/22 04:46*	*5*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3830**		25.2		mg/Kg			07/31/22 14:01	5

Client Sample ID: SS06
Date Collected: 07/25/22 11:40
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:13	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:13	1

Client Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS06

Date Collected: 07/25/22 11:40
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
m-Xylene & p-Xylene	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 18:13	1
o-Xylene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:13	1
Xylenes, Total	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*08/02/22 14:31*	*08/05/22 18:13*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*08/02/22 14:31*	*08/05/22 18:13*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**260**		50.0		mg/Kg			07/30/22 10:17	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		07/29/22 08:47	08/01/22 04:35	1
Diesel Range Organics (Over C10-C28)	**154**		50.0		mg/Kg		07/29/22 08:47	08/01/22 04:35	1
Oil Range Organics (Over C28-C36)	**106**		50.0		mg/Kg		07/29/22 08:47	08/01/22 04:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*07/29/22 08:47*	*08/01/22 04:35*	*1*
o-Terphenyl	*118*		*70 - 130*	*07/29/22 08:47*	*08/01/22 04:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**396**		4.97		mg/Kg			07/31/22 14:10	1

Surrogate Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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)
880-17530-A-5-E MS	Matrix Spike	125	97
880-17530-A-5-F MSD	Matrix Spike Duplicate	128	103
890-2645-1	SS01	109	84
890-2645-1 MS	SS01	107	99
890-2645-1 MSD	SS01	102	86
890-2645-2	SS02	112	98
890-2645-3	SS03	117	97
890-2645-4	SS04	259 S1+	92
890-2645-5	SS05	86	112
890-2645-6	SS06	96	84
890-2689-A-2-G MS	Matrix Spike	124	98
890-2689-A-2-H MSD	Matrix Spike Duplicate	112	93
LCS 880-31335/1-A	Lab Control Sample	116	100
LCS 880-31573/1-A	Lab Control Sample	106	90
LCS 880-31680/1-A	Lab Control Sample	125	92
LCSD 880-31335/2-A	Lab Control Sample Dup	106	98
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94
LCSD 880-31680/2-A	Lab Control Sample Dup	106	95
MB 880-31335/5-A	Method Blank	99	89
MB 880-31573/5-A	Method Blank	101	91
MB 880-31680/5-A	Method Blank	98	90

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)
890-2642-A-41-C MS	Matrix Spike	93	93
890-2642-A-41-D MSD	Matrix Spike Duplicate	109	109
890-2644-A-1-D MS	Matrix Spike	105	111
890-2644-A-1-E MSD	Matrix Spike Duplicate	94	101
890-2645-1	SS01	104	126
890-2645-2	SS02	105	117
890-2645-3	SS03	101	120
890-2645-4	SS04	105	122
890-2645-5	SS05	103	117
890-2645-6	SS06	101	118
LCS 880-30936/2-A	Lab Control Sample	102	114
LCS 880-30964/2-A	Lab Control Sample	106	121
LCSD 880-30936/3-A	Lab Control Sample Dup	104	115
LCSD 880-30964/3-A	Lab Control Sample Dup	90	102
MB 880-30936/1-A	Method Blank	106	127
MB 880-30964/1-A	Method Blank	107	140 S1+

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: LCS 880-31335/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1046		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1239		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2398		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1296		mg/Kg		130	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-31335/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08982		mg/Kg		90	70 - 130	21	35
Toluene			0.100	0.08489		mg/Kg		85	70 - 130	21	35
Ethylbenzene			0.100	0.08074	*1	mg/Kg		81	70 - 130	42	35
m-Xylene & p-Xylene			0.200	0.1641	*1	mg/Kg		82	70 - 130	38	35
o-Xylene			0.100	0.09044	*1	mg/Kg		90	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2645-1 MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.101	0.1014		mg/Kg		101	70 - 130		
Toluene	<0.00202	U F1	0.101	0.09230		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: 890-2645-1 MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U *1 F1	0.101	0.08894		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.201	0.1784		mg/Kg		87	70 - 130
o-Xylene	0.00264	*1 F1	0.101	0.09574		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2645-1 MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00202	U *1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	0.00264	*1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: MB 880-31573/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31573

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1208		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09262		mg/Kg		93	70 - 130	7	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2689-A-2-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.09178		mg/Kg		91	70 - 130		
Toluene	<0.00200	U	0.101	0.1004		mg/Kg		100	70 - 130		
Ethylbenzene	<0.00200	U	0.101	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2218		mg/Kg		110	70 - 130		
o-Xylene	<0.00200	U	0.101	0.1258		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08524		mg/Kg		85	70 - 130	7	35
Toluene	<0.00200	U	0.0998	0.08780		mg/Kg		88	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0998	0.08996		mg/Kg		90	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1787		mg/Kg		90	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1036		mg/Kg		104	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

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

Lab Sample ID: MB 880-31680/5-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31680

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/08/22 08:17	08/08/22 12:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/08/22 08:17	08/08/22 12:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/08/22 08:17	08/08/22 12:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/08/22 08:17	08/08/22 12:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/08/22 08:17	08/08/22 12:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/08/22 08:17	08/08/22 12:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	08/08/22 08:17	08/08/22 12:03	1
1,4-Difluorobenzene (Surr)	90		70 - 130	08/08/22 08:17	08/08/22 12:03	1

Lab Sample ID: LCS 880-31680/1-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31680

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09608		mg/Kg		96	70 - 130		
Toluene			0.100	0.1059		mg/Kg		106	70 - 130		
Ethylbenzene			0.100	0.1185		mg/Kg		118	70 - 130		
m-Xylene & p-Xylene			0.200	0.2507		mg/Kg		125	70 - 130		
o-Xylene			0.100	0.1380	*+	mg/Kg		138	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: LCSD 880-31680/2-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31680

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	11	35
Toluene			0.100	0.1066		mg/Kg		107	70 - 130	1	35
Ethylbenzene			0.100	0.1143		mg/Kg		114	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2280		mg/Kg		114	70 - 130	10	35
o-Xylene			0.100	0.1244		mg/Kg		124	70 - 130	10	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: LCSD 880-31680/2-A
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31680

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 880-17530-A-5-E MS
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.101	0.1066		mg/Kg		105	70 - 130
Toluene	<0.00199	U	0.101	0.1147		mg/Kg		114	70 - 130
Ethylbenzene	<0.00199	U	0.101	0.1313		mg/Kg		130	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.2708	F1	mg/Kg		134	70 - 130
o-Xylene	<0.00199	U F1 *+	0.101	0.1474	F1	mg/Kg		146	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-17530-A-5-F MSD
Matrix: Solid
Analysis Batch: 31685

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.1056		mg/Kg		105	70 - 130	1	35
Toluene	<0.00199	U	0.100	0.1115		mg/Kg		111	70 - 130	3	35
Ethylbenzene	<0.00199	U	0.100	0.1213		mg/Kg		121	70 - 130	8	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.2484		mg/Kg		124	70 - 130	9	35
o-Xylene	<0.00199	U F1 *+	0.100	0.1355	F1	mg/Kg		135	70 - 130	8	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	128		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-30936/1-A
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30936

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		07/28/22 15:45	07/29/22 19:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/28/22 15:45	07/29/22 19:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/28/22 15:45	07/29/22 19:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	07/28/22 15:45	07/29/22 19:56	1
o-Terphenyl	127		70 - 130	07/28/22 15:45	07/29/22 19:56	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: LCS 880-30936/2-A
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	936.6		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*114*		*70 - 130*

Lab Sample ID: LCSD 880-30936/3-A
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1051		mg/Kg		105	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1076		mg/Kg		108	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: 890-2642-A-41-C MS
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	999	1138		mg/Kg		109	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	815.6		mg/Kg		82	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: 890-2642-A-41-D MSD
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30936

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 F1 F2	999	1401	F1 F2	mg/Kg		136	70 - 130	21	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	963.2		mg/Kg		96	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: 890-2642-A-41-D MSD
Matrix: Solid
Analysis Batch: 30956

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30936

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	109		70 - 130

Lab Sample ID: MB 880-30964/1-A
Matrix: Solid
Analysis Batch: 31081

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30964

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		07/29/22 08:47	07/31/22 20:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/29/22 08:47	07/31/22 20:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/29/22 08:47	07/31/22 20:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	07/29/22 08:47	07/31/22 20:04	1
o-Terphenyl	140	S1+	70 - 130	07/29/22 08:47	07/31/22 20:04	1

Lab Sample ID: LCS 880-30964/2-A
Matrix: Solid
Analysis Batch: 31081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30964

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1145		mg/Kg		115	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1033		mg/Kg		103	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	106		70 - 130
o-Terphenyl	121		70 - 130

Lab Sample ID: LCSD 880-30964/3-A
Matrix: Solid
Analysis Batch: 31081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30964

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1027		mg/Kg		103	70 - 130	11	20
Diesel Range Organics (Over C10-C28)			1000	946.0		mg/Kg		95	70 - 130	9	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	90		70 - 130
o-Terphenyl	102		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

Lab Sample ID: 890-2644-A-1-D MS
Matrix: Solid
Analysis Batch: 31081

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1187		mg/Kg		119	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1105		mg/Kg		111	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Lab Sample ID: 890-2644-A-1-E MSD
Matrix: Solid
Analysis Batch: 31081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30964

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	1112		mg/Kg		111	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1023		mg/Kg		102	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30809/1-A
Matrix: Solid
Analysis Batch: 30989

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			07/31/22 10:56	1

Lab Sample ID: LCS 880-30809/2-A
Matrix: Solid
Analysis Batch: 30989

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-30809/3-A
Matrix: Solid
Analysis Batch: 30989

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	262.0		mg/Kg		105	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-17394-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3180		1250	4513		mg/Kg		107	90 - 110

Lab Sample ID: 880-17394-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3180		1250	4512		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-2645-4 MS — **Client Sample ID: SS04**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	630		251	854.7		mg/Kg		90	90 - 110

Lab Sample ID: 890-2645-4 MSD — **Client Sample ID: SS04**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	630		251	854.3		mg/Kg		90	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	5035	
890-2645-2	SS02	Total/NA	Solid	5035	
890-2645-3	SS03	Total/NA	Solid	5035	
890-2645-4	SS04	Total/NA	Solid	5035	
890-2645-6	SS06	Total/NA	Solid	5035	
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2645-1 MS	SS01	Total/NA	Solid	5035	
890-2645-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	8021B	31335
890-2645-2	SS02	Total/NA	Solid	8021B	31335
890-2645-3	SS03	Total/NA	Solid	8021B	31335
890-2645-4	SS04	Total/NA	Solid	8021B	31335
890-2645-6	SS06	Total/NA	Solid	8021B	31335
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	8021B	31335
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31335
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573
890-2645-1 MS	SS01	Total/NA	Solid	8021B	31335
890-2645-1 MSD	SS01	Total/NA	Solid	8021B	31335
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	8021B	31573
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 31680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-5	SS05	Total/NA	Solid	5035	
MB 880-31680/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31680/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31680/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17530-A-5-E MS	Matrix Spike	Total/NA	Solid	5035	
880-17530-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-5	SS05	Total/NA	Solid	8021B	31680
MB 880-31680/5-A	Method Blank	Total/NA	Solid	8021B	31680
LCS 880-31680/1-A	Lab Control Sample	Total/NA	Solid	8021B	31680

QC Association Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

GC VOA (Continued)

Analysis Batch: 31685 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-31680/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31680
880-17530-A-5-E MS	Matrix Spike	Total/NA	Solid	8021B	31680
880-17530-A-5-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31680

Analysis Batch: 31771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	Total BTEX	
890-2645-2	SS02	Total/NA	Solid	Total BTEX	
890-2645-3	SS03	Total/NA	Solid	Total BTEX	
890-2645-4	SS04	Total/NA	Solid	Total BTEX	
890-2645-5	SS05	Total/NA	Solid	Total BTEX	
890-2645-6	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	8015NM Prep	
890-2645-2	SS02	Total/NA	Solid	8015NM Prep	
890-2645-3	SS03	Total/NA	Solid	8015NM Prep	
890-2645-4	SS04	Total/NA	Solid	8015NM Prep	
890-2645-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-30936/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30936/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30936/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2642-A-41-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2642-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	8015B NM	30936
890-2645-2	SS02	Total/NA	Solid	8015B NM	30936
890-2645-3	SS03	Total/NA	Solid	8015B NM	30936
890-2645-4	SS04	Total/NA	Solid	8015B NM	30936
890-2645-5	SS05	Total/NA	Solid	8015B NM	30936
MB 880-30936/1-A	Method Blank	Total/NA	Solid	8015B NM	30936
LCS 880-30936/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30936
LCSD 880-30936/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30936
890-2642-A-41-C MS	Matrix Spike	Total/NA	Solid	8015B NM	30936
890-2642-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30936

Prep Batch: 30964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-6	SS06	Total/NA	Solid	8015NM Prep	
MB 880-30964/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30964/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30964/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2644-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2644-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

GC Semi VOA

Analysis Batch: 31065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Total/NA	Solid	8015 NM	
890-2645-2	SS02	Total/NA	Solid	8015 NM	
890-2645-3	SS03	Total/NA	Solid	8015 NM	
890-2645-4	SS04	Total/NA	Solid	8015 NM	
890-2645-5	SS05	Total/NA	Solid	8015 NM	
890-2645-6	SS06	Total/NA	Solid	8015 NM	

Analysis Batch: 31081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-6	SS06	Total/NA	Solid	8015B NM	30964
MB 880-30964/1-A	Method Blank	Total/NA	Solid	8015B NM	30964
LCS 880-30964/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30964
LCSD 880-30964/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30964
890-2644-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30964
890-2644-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30964

HPLC/IC

Leach Batch: 30809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Soluble	Solid	DI Leach	
890-2645-2	SS02	Soluble	Solid	DI Leach	
890-2645-3	SS03	Soluble	Solid	DI Leach	
890-2645-4	SS04	Soluble	Solid	DI Leach	
890-2645-5	SS05	Soluble	Solid	DI Leach	
890-2645-6	SS06	Soluble	Solid	DI Leach	
MB 880-30809/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30809/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30809/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17394-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17394-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2645-4 MS	SS04	Soluble	Solid	DI Leach	
890-2645-4 MSD	SS04	Soluble	Solid	DI Leach	

Analysis Batch: 30989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2645-1	SS01	Soluble	Solid	300.0	30809
890-2645-2	SS02	Soluble	Solid	300.0	30809
890-2645-3	SS03	Soluble	Solid	300.0	30809
890-2645-4	SS04	Soluble	Solid	300.0	30809
890-2645-5	SS05	Soluble	Solid	300.0	30809
890-2645-6	SS06	Soluble	Solid	300.0	30809
MB 880-30809/1-A	Method Blank	Soluble	Solid	300.0	30809
LCS 880-30809/2-A	Lab Control Sample	Soluble	Solid	300.0	30809
LCSD 880-30809/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30809
880-17394-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30809
880-17394-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30809
890-2645-4 MS	SS04	Soluble	Solid	300.0	30809
890-2645-4 MSD	SS04	Soluble	Solid	300.0	30809

Lab Chronicle

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS01
Date Collected: 07/25/22 11:00
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 12:08	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30936	07/28/22 15:45	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			30956	07/30/22 03:21	AJ	EETSC MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		1			30989	07/31/22 13:05	SMC	EETSC MID

Client Sample ID: SS02
Date Collected: 07/25/22 11:05
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 13:09	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30936	07/28/22 15:45	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			30956	07/30/22 03:43	AJ	EETSC MID
Soluble	Leach	DI Leach			5.04 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		5			30989	07/31/22 13:15	SMC	EETSC MID

Client Sample ID: SS03
Date Collected: 07/25/22 11:10
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 13:30	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30936	07/28/22 15:45	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			30956	07/30/22 04:04	AJ	EETSC MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		10			30989	07/31/22 13:24	SMC	EETSC MID

Client Sample ID: SS04
Date Collected: 07/25/22 11:30
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 13:50	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID

Lab Chronicle

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Client Sample ID: SS04

Date Collected: 07/25/22 11:30
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30936	07/28/22 15:45	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			30956	07/30/22 04:25	AJ	EETSC MID
Soluble	Leach	DI Leach			4.99 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		1			30989	07/31/22 13:33	SMC	EETSC MID

Client Sample ID: SS05

Date Collected: 07/25/22 11:35
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	31680	08/08/22 08:17	EL	EETSC MID
Total/NA	Analysis	8021B		10	5 mL	5 mL	31685	08/08/22 15:30	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30936	07/28/22 15:45	DM	EETSC MID
Total/NA	Analysis	8015B NM		5			30956	07/30/22 04:46	AJ	EETSC MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		5			30989	07/31/22 14:01	SMC	EETSC MID

Client Sample ID: SS06

Date Collected: 07/25/22 11:40
Date Received: 07/25/22 15:26

Lab Sample ID: 890-2645-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 18:13	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31771	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31065	07/30/22 10:17	AJ	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30964	07/29/22 08:47	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31081	08/01/22 04:35	SM	EETSC MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30809	07/27/22 12:54	SMC	EETSC MID
Soluble	Analysis	300.0		1			30989	07/31/22 14:10	SMC	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

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

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

Sample Summary

Client: Ensolum
Project/Site: SEMU BMT

Job ID: 890-2645-1
SDG: 03D02057013

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2645-1	SS01	Solid	07/25/22 11:00	07/25/22 15:26
890-2645-2	SS02	Solid	07/25/22 11:05	07/25/22 15:26
890-2645-3	SS03	Solid	07/25/22 11:10	07/25/22 15:26
890-2645-4	SS04	Solid	07/25/22 11:30	07/25/22 15:26
890-2645-5	SS05	Solid	07/25/22 11:35	07/25/22 15:26
890-2645-6	SS06	Solid	07/25/22 11:40	07/25/22 15:26

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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Project Manager:	Kalei Jennings	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum	Company Name:	Ensolum
Address:	3122 National Parks Hwy	Address:	
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	
Phone:	817-683-2503	Email:	kjennings@ensolum.com

Work Order Comments

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

Project Name:	SEMU BMT	**Turn Around**	
Project Number:	03D02057013	☑ Routine ☐ Rush	
Project Location:	32.5529, -103.1754	Due Date:	
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IWM-009
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	28.4
Total Containers:		Corrected Temperature:	28.2

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS01	S	7/25/2022	11:00					x	x	x	Incident ID:
SS02	S	7/25/2022	11:05					x	x	x	NAPP2216134591
SS03	S	7/25/2022	11:10					x	x	x	Cost Center:
SS04	S	7/25/2022	11:30					x	x	x	
SS05	S	7/25/2022	11:35					x	x	x	AFE:
SS06	S	7/25/2022	11:40					x	x	x	

890-2645 Chain of Custody

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			7.25.22 1526			
3				4		
5				6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2645-1
SDG Number: 03D02057013

Login Number: 2645
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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2645-1
SDG Number: 03D02057013

Login Number: 2645
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/27/22 10:48 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	

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: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 138121
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Approved with Conditions. The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater. Please delineate soils both vertically and laterally to 600 mg/kg chloride and 100 mg/kg TPH.	8/31/2022