### ENSOLUM

February 7, 2023

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

#### Re: Closure Request SEMU Permian South Header Incident Number NAPP2230754633 Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the SEMU Permian South Header (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of crude oil and produced water at the Site. Based on the excavation activities and laboratory analytical results from soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2230754633.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit C, Section 30, Township 20 South, Range 38 East, in Lea County, New Mexico (32.549475°, -103.190427°) and is associated with oil and gas exploration and production operations on Private Land.

On October 10, 2022, a flowline failure resulted in an unauthorized release of approximately 4.55 barrels (bbls) of produced water and 0.05 bbls of crude oil, which sprayed onto the adjacent pasture. No freestanding fluids were recovered. Maverick reported the release immediately via email to the New Mexico Oil Conservation Division (NMOCD) on October 10, 2022 and submitted a *Release Notification Form C-141* (Form C-141) on November 3, 2022. The release was assigned Incident Number NAPP2230754633.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was assess for applicablity of 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 conservatively estimated to be between 51 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well is United States Geological Survey (USGS) well 323307103113601, located approximately

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0.26 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 82.73 feet bgs and a total depth of 115 feet bgs. The next closest permitted groundwater well with the most recent depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well L-15414-POD1, located approximately 0.82 miles northeast of the Site. The NMOSE groundwater well was drilled in November 2022 to a depth of 110 feet bgs and groundwater was not encountered. Thus, depth to groundwater for NMOSE well L-15414-POD1 is estimated to be greater than 110 feet bgs. NMOSE well L-15414-POD1 indicates groundwater has likley stayed at or has lowered over time since the USGS well was last measured. Utilizing the USGS well data is a conservative approach for reasonabaly determining probable groundwater depth beneath the Site per 19.15.29.11.A (2) NMAC. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix B.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 11,660 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, 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 I Closure Criteria (Closure Criteria) apply:

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

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

#### INITIAL ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On October 11, 2022, Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven preliminary assessment soil samples (SS01 through SS07) were collected within the visually impacted area. The impacted area was categorized into two areas based on soil saturation: the release extent and the overspray area. Soil samples SS01 through SS04 were collected within the release extent and soil samples SS05 through SS07 were collected within the overspray area at a depth of 0.5 feet bgs. The preliminary soil samples were field screened for volatile organic copmounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The release extent, overspray area and soil sample locations were mapped utilizing a handheld global positioning system (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix C.

Soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico,



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for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary assessment soil samples SS01 through SS04 indicated TPH and/or chloride concentrations exceeded the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS05 through SS07 collected throughout the overspray area indicated concentrations of all COCs were compliant with the Site Closure Criteria and reclamation requirement. Table 1 summarizes soil analytical results. Laboratory analytical reports are included as Appendix D.

Based on visible staining in the release area and laboratory analytical results for preliminary soil samples SS01 through SS04, excavation activities appeared warranted.

#### DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On November 17, 2022, Ensolum personnel were at the Site to further evaluate the vertical extent of the overspray area. Three boreholes were advanced via hand-auger at the respective locations of assessment soil samples SS05 through SS07. One discrete delineation soil sample was collected from each borehole location, SS05A through SS07A, at a depth of 1-foot bgs. Delineation activities were directed by field screening for VOCs and chloride as described above. The boreholes were backfilled with soil removed.

The soil samples were collected, handled, and analyzed as described above. The overspray area and delineation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. A photographic log of the overspray area is included as Appendix C.

Laboratory analytical results for borehole samples SS05A through SS07A, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Table 1 summarizes soil analytical results. Laboratory analytical reports are included as Appendix D.

#### **EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS**

Between November 9 and December 7, 2022, Ensolum personnel were at the Site to oversee excavation activities based on visible staining and laboratory analytical results for preliminary assessment soil samples SS01 through SS04. Excavation activities were performed via hand shoveling, skid steer, and backhoe in order to achieve maximum removal of impacted soil. To direct excavation activities, soil was field screened for VOCs and chloride as described above.

Following excavation activities, 5-point composite excavation confirmation samples were collected from the the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS09 were collected from the floor and sidewalls of the excavation at depths ranging from 1foot to 1.5 feet bgs. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into the floor samples. The soil samples were handled and analyzed as described above. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 3. A photographic log of the excavation is included as Appendix C.

Laboratory analytical results for excavation soil samples FS01 through FS09, collected from the final excavation extent, indicated concentrations of all COCs were compliant with the Site Closure Criteria and reclamtion requirement. Table 1 summarizes soil analytical results. Laboratory analytical reports are included as Appendix D.



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ENSOLUM

The excavation measured approximately 1,750 square feet in areal extent. A total of approximately 97 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at R360 Environmental Solutions in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

#### **CLOSURE REQUEST**

Remedial actions conducted at the Site to address the October 2022 release of produced water and crude oil are believed to have mitigated adverse conditions at this Site. Laboratory analytical results for the delineation soil samples collected throughout the overspray area and excavation confirmation soil samples indicated concentrations of all COCs were compliant with the Site Closure Criteria. Based on the laboratory analytical results, no further remediation appears warranted.

Maverick believes these remedial actions are protective of human health, the environment, and groundwater and requests closure for Incident NAPP2230754633. NMOCD notifications are included as Appendix A. Upon NMOCD approval of this *Closure Request*, Maverick will backfill the excavation with material purchased locally and recontoured the Site to match pre-existing site conditions.

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

Sincerely, Ensolum, LLC

adrie Dreem

Hadlie Green Staff Geologist

cc: Bryce Wagoner, Maverick Permian, LLC

Attachments:

- Figure 1 Site Receptor Map
- Figure 2 Preliminary Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Table 1Soil 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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Kalei Jennings Senior Scientist



**FIGURES** 

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### TABLES

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| TABLE 1         SOIL SAMPLE ANALYTICAL RESULTS         SEMU Permian South Header         Maverick Permian, LLC         Lea County, New Mexico |                    |                     |                    |                       |                    |                    |                    |                    |                      |                     |
|---|--------------------|---------------------|--------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|----------------------|---------------------|
| Sample<br>Designation   | Date               | Depth<br>(feet bgs) | Benzene<br>(mg/kg) | Total BTEX<br>(mg/kg) | TPH GRO<br>(mg/kg) | TPH DRO<br>(mg/kg) | TPH ORO<br>(mg/kg) | GRO+DRO<br>(mg/kg) | Total TPH<br>(mg/kg) | Chloride<br>(mg/kg) |
| NMOCD Table I   | Closure Criteria ( | (NMAC 19.15.29)     | 10                 | 50                    | NE                 | NE                 | NE                 | 1,000              | 2,500                | 10,000              |
|   |                    |                     |                    |                       | Soil Samples       |                    |                    |                    |                      |                     |
| SS01  | 10/11/2022         | 0.5                 | 0.428              | 17.1                  | 1,030              | 13,100             | <498               | 14,130             | 14,100               | 487*                |
| SS02  | 10/11/2022         | 0.5                 | <0.200             | 0.918                 | 2,320              | 15,800             | <500               | 18,120             | 18,100               | 176*                |
| SS03  | 10/11/2022         | 0.5                 | <0.202             | <0.404                | 113                | 2,260              | <49.9              | 2,373              | 2,370                | 1,470*              |
| SS04  | 10/11/2022         | 0.5                 | <0.0402            | 0.106                 | <49.9              | 512                | <49.9              | 512                | 512                  | 1,090*              |
| SS05  | 10/11/2022         | 0.5                 | <0.0398            | <0.0795               | <49.8              | <49.8              | <49.8              | <49.8              | <49.8                | 478*                |
| SS05A   | 11/17/2022         | 1                   | <0.00200           | <0.00401              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 84.1*               |
| SS06  | 10/11/2022         | 0.5                 | <0.00200           | <0.00399              | <49.8              | <49.8              | <49.8              | <49.8              | <49.8                | 176*                |
| SS06A   | 11/17/2022         | 1                   | <0.00201           | <0.00402              | <49.9              | 70.2               | <49.9              | 70.2               | 70.2                 | 21.8*               |
| SS07  | 10/11/2022         | 0.5                 | <0.00201           | <0.00402              | <49.8              |                    | <49.8              | <49.8              | <49.8                | 147*                |
| SS07A   | 11/17/2022         | 1                   | <0.00200           | <0.00401              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 24.5*               |
|   |                    |                     |                    | Excava                | tion Floor Soil S  | amples             |                    |                    |                      |                     |
| FS01  | 11/09/2022         | 1                   | <0.00199           | <0.00398              | <49.8              | 81.1               | <49.8              | 81.1               | 81.1                 | 180*                |
| FS02  | 11/10/2022         | 1                   | <0.00202           | <0.00403              | <49.9              | 193                | <49.9              | 193                | 193                  | 135*                |
| FS02A   | 12/07/2022         | 1.5                 | <0.00200           | <0.00399              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 21.6*               |
| FS03  | 11/10/2022         | 1                   | <0.00200           | <0.00401              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 100*                |
| FS04  | 11/10/2022         | 1                   | <0.00201           | <0.00402              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 198*                |
| FS05  | 11/10/2022         | 1                   | <0.00199           | <0.00398              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 492*                |
| FS06  | 11/10/2022         | 1                   | <0.00200           | <0.00399              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 104*                |
| FS07  | 11/10/2022         | 1                   | <0.00199           | <0.00398              | <49.9              | 58.4               | <49.9              | 58.4               | 58.4                 | 190*                |
| FS08  | 11/17/2022         | 1                   | <0.00199           | <0.00398              | <49.9              | 243                | <49.9              | 243                | 243                  | 185*                |
| FS08A   | 12/07/2022         | 1.5                 | <0.00199           | <0.00398              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 11.8*               |
| FS09  | 11/17/2022         | 1                   | <0.00201           | <0.00402              | <49.8              | 261                | <49.8              | 261                | 261                  | 24.4*               |
| FS09A   | 12/07/2022         | 1.5                 | <0.00199           | <0.00398              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 14.0*               |

#### 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 I Closure Criteria or reclamation standard where applicable.

Grey text represents samples that have been excavated

\* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard for TPH in the top 4 feet is 100 mg/kg; chloride in the top 4 feet is 600 mg/kg



### APPENDIX A

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 Page 12eof 222

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

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| Incident ID    | NAPP2230754633 |
|----------------|----------------|
| District RP    |                |
| Facility ID    |                |
| Application ID |                |

### **Release Notification**

### **Responsible Party**

| Responsible Party: Maverick Permian, LLC                        | OGRID: 331199                               |
|---|---|
| Contact Name: Bryce Wagoner                                     | Contact Telephone: 928-241-1862             |
| Contact email: Bryce.Wagoner@mavresources.com                   | Incident # (assigned by OCD) NAPP2230754633 |
| Contact mailing address:<br>1410 NW County Road Hobbs, NM 88240 |   |

### **Location of Release Source**

Latitude 32.549475\_\_\_\_\_

Longitude -103.190427\_\_\_\_\_

| (NAD 83 in decimal degrees to 5 decimal places) |
|---|
|---|

| Site Name SEMU Permian South Header      | Site Type                         |
|--|-----------------------------------|
| Date Release Discovered October 10, 2022 | API# (if applicable) 30-025-07861 |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| С           | 30      | 20 S     | 38 E  | Lea    |

Surface Owner: State Federal Tribal Private (Name:

### Nature and Volume of Release

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

| Crude Oil        | Volume Released (bbls) 0.05 bbls   | Volume Recovered (bbls) 0               |
|------------------|--|---|
| Produced Water   | Volume Released (bbls) 4.55 bbls   | Volume Recovered (bbls) 0               |
|                  | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ⊠ No                              |
| Condensate       | Volume Released (bbls)   | Volume Recovered (bbls)                 |
| 🗌 Natural Gas    | Volume Released (Mcf)  | Volume Recovered (Mcf)                  |
| Other (describe) | Volume/Weight Released (provide units)   | Volume/Weight Recovered (provide units) |

Cause of Release

The release was caused by valve malfunction on a flow line resulting in a minor release. The release occurred off pad. The source of the release has been stopped and the impacted area has been secured.

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#### Oil Conservation Division

| Incident ID    | NAPP2230754633 |
|----------------|----------------|
| District RP    |                |
| Facility ID    |                |
| Application ID |                |

| Was this a major<br>release as defined by<br>19.15.29.7(A) NMAC? | If YES, for what reason(s) does the responsible party consider this a major release?  |
|--|---|
| 🗌 Yes 🖾 No   |   |
|  |   |
| If YES, was immediate no   | otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? |
|  |   |

### **Initial Response**

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

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

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

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

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

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

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

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

| Printed Name:Bryce Wagoner           | Title:Permian HSE Specialist II |
|--------------------------------------|---------------------------------|
| Signature:                           | Date:10/242022                  |
| email:Bryce.Wagoner@mavresources.com | Telephone:928-241-1862          |
|                                      |                                 |
| OCD Only                             |                                 |
| Received by: Jocelyn Harimon         | Date:11/03/2022                 |

|             | Pooled Fluids on the Surface  |                |               |  |                        |                      |  |                         |   |   |
|-------------|-------------------------------|----------------|---------------|--|------------------------|----------------------|--|-------------------------|---|---|
|             | Length<br>(ft.)               | Width<br>(ft.) | Depth<br>(in) | # of Boundaries<br>*edges of pool<br>where depth is 0.<br>don't count shared<br>boundaries | Oil-Water Ratio<br>(%) | Pooled Area<br>(ft²) | Estimated<br>Average<br>Depth<br>(ft.) | Pooled Volume<br>(bbl.) | Volume of<br>Oil in<br>Subsurface<br>(bbl.) | Volume of<br>Water in<br>Subsurface<br>(bbl.) |
| Rectangle A | 4.0                           | 4.0            | 2.0           | 4.0  | 0.01                   | 16.0                 | 0.0                                    | 0.1                     | 0.00  | 0.12  |
| Rectangle B | 4.0                           | 4.0            | 2.0           | 4.0  | 0.01                   | 16.0                 | 0.0                                    | 0.1                     | 0.00  | 0.12  |
| Rectangle C | 4.0                           | 4.0            | 2.00          | 4.00   | 0.01                   | 16.000               | 0.042                                  | 0.119                   | 0.00  | 0.12  |
| Rectangle D |                               |                |               |  |                        | 0.000                | #DIV/0!                                | #DIV/0!                 | #DIV/0!                                     | #DIV/0!                                       |
| Rectangle E |                               |                |               |  |                        | 0.000                | #DIV/0!                                | #DIV/0!                 | #DIV/0!                                     | #DIV/0!                                       |
|             | Total Volume (bbls): 0.36 0.0 |                |               |  |                        |                      | 0.01                                   | 0.35                    |   |   |

|             |                                     |                |                | Sul  | osurface Fluids        | 6                          |                  |  |   |   |
|-------------|-------------------------------------|----------------|----------------|--|------------------------|----------------------------|------------------|--|---|---|
|             | Length<br>(ft.)                     | Width<br>(ft.) | Depth<br>(in.) | Saturation<br>(%)<br>*10% in<br>consolidated<br>sediments after<br>rain to 50% in sand<br>with no<br>precipitation | Oil-Water Ratio<br>(%) | Area<br>(ft <sup>2</sup> ) | Volume<br>(bbl.) | Estimated<br>Volume in<br>Subsurface<br>(bbl.) | Volume of<br>Oil in<br>Subsurface<br>(bbl.) | Volume of<br>Water in<br>Subsurface<br>(bbl.) |
| Rectangle A | 20.0                                | 45.0           | 1.0            | 0.1  | 0.01                   | 900.0                      | 13.4             | 1.1  | 0.01  | 1.1   |
| Rectangle B | 63.0                                | 31.0           | 1.0            | 0.1  | 0.01                   | 1953.0                     | 29.0             | 2.3  | 0.02  | 2.3   |
| Rectangle C | 24.0                                | 15.0           | 2.0            | 0.1  | 0.01                   | 360.0                      | 10.7             | 0.9  | 0.01  | 0.8   |
| Rectangle D |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle E |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle F |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle G |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle H |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle I |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| Rectangle J |                                     |                |                |  |                        | 0.0                        | 0.0              | 0.0  | 0.00  | 0.0   |
| -           | Total Volume (bbls): 4.24 0.04 4.20 |                |                |  |                        |                            |                  |  |   |   |

TOTAL RELEASE VOLUME (bbls): 4.6

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

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

District III

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

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

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

CONDITIONS

| Operator:                    | OGRID:                                    |
|------------------------------|---|
| Maverick Permian LLC         | 331199                                    |
| 1111 Bagby Street Suite 1600 | Action Number:                            |
| Houston, TX 77002            | 156196                                    |
|                              | Action Type:                              |
|                              | [C-141] Release Corrective Action (C-141) |
|                              |   |

#### CONDITIONS

| Created By |      | Condition<br>Date |
|------------|------|-------------------|
| jharimon   | None | 11/3/2022         |

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Action 156196

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Oil Conservation Division

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| Incident ID    | NAPP2230754633 |
| District RP    |                |
| Facility ID    |                |
| Application ID |                |

### Site Assessment/Characterization

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

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

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

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

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

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

| <b>Received by OCD: 2/7/2023 10:10</b><br>Form C-141  | 5:33 AM                   |  |  | Page 17 of 222   |
|---|---------------------------|--|--|--|
|   |                           |  | Incident ID  | NAPP2230754633   |
| Page 4  | Oil Conservation Division | ation Division   |  |  |
|   |                           |  | Facility ID  |  |
|   |                           |  | Application ID   |  |
| regulations all operators are required<br>public health or the environment. T<br>failed to adequately investigate and |                           | cations and perform co<br>CD does not relieve the<br>t to groundwater, surfac<br>esponsibility for comple<br>Title: _HSE Speciali<br>Date:2/7/2023 | rrective actions for rele<br>operator of liability sho<br>ce water, human health | ases which may endanger<br>ould their operations have<br>or the environment. In<br>leral, state, or local laws |
| OCD Only<br>Received by:Jocelyn Ha  | Irimon                    | Date: <u>02/0</u>  | 07/2023  |  |

Page 6

Oil Conservation Division

| Incident ID    | NAPP2230754633 |
|----------------|----------------|
| District RP    |                |
| Facility ID    |                |
| Application ID |                |

### Closure

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

Closure Report Attachment Checklist: Each of the following items must be included in the closure report. A scaled site and sampling diagram as described in 19.15.29.11 NMAC Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection) Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling) Description of remediation activities I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete. Title: \_HSE Specialist\_\_\_\_\_ Printed Name: Brvce Wagoner \_\_\_\_\_ Signature: Date: \_\_\_\_\_2/7/2023\_\_\_\_\_ email: \_\_Bryce.Wagoher@mavresources.com\_\_\_\_\_ Telephone: \_\_\_\_928-241-1862\_\_\_\_\_ **OCD Only** Date: 02/07/2023 Received by: Jocelyn Harimon Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations. Title: Environmental Specialist A

•



### APPENDIX B

**Referenced Well Records** 



National Water Information System: Web Interface USGS Water Resources USGS Home Contact USGS Search USGS

 Data Category:
 Geographic Area:

 Groundwater
 ✓

 United States
 ✓

#### Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 323307103113601

**Minimum number of levels =** 1 <u>Save file of selected sites</u> to local disk for future upload

#### USGS 323307103113601 20S.38E.19.312141

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

Output formats

Table of data

Tab-separated data

Graph of data

Reselect period

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

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

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#### Received by OCD: 2/7/2023 10:16:33 AM

| Section                       |  | Description   |  |
|-------------------------------|--|---|--|
| 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: <u>USGS Water Data Support Team</u> Page Last Modified: 2023-01-31 14:52:06 EST 0.3 0.24 nadww02





## New Mexico Office of the State Engineer **Point of Diversion Summary**

|                              |                  | (quarters are 1=NW 2=NI   | E 3=SW 4=SE) |                         |
|------------------------------|------------------|---------------------------|--------------|-------------------------|
|                              |                  | (quarters are smallest to | largest)     | (NAD83 UTM in meters)   |
| Well Tag                     | POD Number       | Q64 Q16 Q4 Sec            | Tws Rng      | X Y                     |
| NA                           | L 15414 POD1     | 3 1 3 20                  | 20S 38E      | 671043 3603587 🌍        |
| <sup>x</sup><br>Driller Lice | nse: 1184        | Driller Company:          | WEST TEXA    | S WATER WELL SERVICE    |
| Driller Nam                  | ne: RUSSELL SOUT | THERLAND                  |              |                         |
| Drill Start I                | Date: 11/10/2022 | Drill Finish Date:        | 11/10/2022   | Plug Date:              |
| Log File Da                  | te: 12/21/2022   | PCW Rcv Date:             |              | Source:                 |
| Pump Type                    | :                | Pipe Discharge Size:      |              | <b>Estimated Yield:</b> |
| <b>Casing Size</b>           |                  | Depth Well:               | 103 feet     | Depth Water:            |

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, or suitability for any particular purpose of the data.

2/1/23 10:50 AM

POINT OF DIVERSION SUMMARY

•

| OCD: 2/7/2023 10:16:33 A  |  |  | Page                               |
|---|--|--|------------------------------------|
| stat Stat   |  | THE STA  | 7                                  |
| ce of the State Engines   |  | St A TED   | ALL OF                             |
|   | WELL PLUGGING  |  | NEW                                |
|   | PLAN OF OPERATIO   | The second was   |                                    |
|   | PLAN OF OPERATIO   | ND 43.1912.  | () III                             |
|   |  |  |                                    |
|   | rations shall be filed with and accepted by the Office of the<br>e plugging multiple monitoring wells on the same site using   |  |                                    |
| nn/ if within an area of interest and<br>struction reflected in a well record | rticipate in the Aquifer Mapping Program (AMP)-NM Bui<br>I meets the minimum construction requirements, such as th<br>I and log is not compromised, contact AMP at 575-835-503<br>howing proof to the OSE that your well was accepted in thi | here is still water in your well, and<br>8 or -6951, or by email nmbg-wate | l the well<br>erlevels@nmt.edu,    |
| FILING FEE: There is no f   | ling fee for this form.  |  |                                    |
| GENERAL / WELL OWN  | <b>ERSHIP:</b> Check here if proposing one plan for mu   | Itiple monitoring wells on the same  | site and attaching W               |
| isting Office of the State En<br>me of well owner: Maveric                    | ngineer POD Number (Well Number) for well t<br>k Natural Resources, LLC  | o be plugged: HHOT (-  | -15414                             |
| uiling address: 1410 NW Co  | ounty Road   | County:  |                                    |
| y: Hobbs  | State: New   | Mexico Zip   | code88240                          |
|   | E-mail: bryce.wa   |  |                                    |
| ll Driller contracted to provid<br>w Mexico Well Driller Licen                | de plugging services: <u>West Texas Drilling Service</u><br>se No.: <u>WD# 1184</u>  | Expiration Date: 10/31/2023  | 3                                  |
|   | Check here if this plan describes method for pluggin   | g multiple monitoring wells on th  | e same site and atta               |
| te: A copy of the existing Wo   | Supplemental form WD-08m and skip to #2 in this see<br>ell Record for the well(s) to be plugged should be  | ction.<br>attached to this plan.   |                                    |
|   |  | . 23.46  |                                    |
| GPS Well Location:  | Latitude: <u>32</u> deg, <u>33</u><br>Longitude: <u>103</u> deg, <u>10</u> r   | min, $25.40$ sec<br>nin, $41.55$ sec, NAD 8                                | 33                                 |
|   | <u> </u>   |  |                                    |
| Reason(s) for plugging  | well(s):   |  |                                    |
| Soil boring   |  |  |                                    |
|   |  |  |                                    |
| what hydrogeologic pa   | Type of monitoring program? <u>No</u> If yes, parameters were monitored. If the well was use monitored here New Mexico Environment Department may  | d to monitor contaminated  | or poor quality                    |
| Does the well tap brack   | kish, saline, or otherwise poor quality water? <u>N</u>  | A If yes, provide a  | additional detail,                 |
|   | ults and/or laboratory report(s):  |  |                                    |
| Static water level:   | >100feet below land surface / feet above l   | and surface (circle one)   |                                    |
| Depth of the well:  |  | OSE DIT NOU 8  | 2022 MR:32                         |
|   |  | WD-08 V  | Well Plugging Plan                 |
|   |  | Vers   | sion: July 31, 2019<br>Page 1 of 5 |

| 7)          | Inside diameter of innermost casing:inches.   |
|-------------|---|
| 8)          | Casing material: Temporary PVC SCH 40   |
| 9)          | The well was constructed with:<br>an open-hole production interval, state the open interval: N/A<br>a well screen or perforated pipe, state the screened interval(s): N/A   |
| 10)         | What annular interval surrounding the artesian casing of this well is cement-grouted? N/A   |
| 11)         | Was the well built with surface casing? If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? If yes, please describe:   |
| 12)         | Has all pumping equipment and associated piping been removed from the well?If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.   |
| V. DES      | <b>CRIPTION OF PLANNED WELL PLUGGING:</b> If plugging method differs between multiple wells on same site, a separate form must be completed for each method.  |
| diagram     | this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such social logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan. |
| Also, if th | is planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.   |
| 1)          | Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology   |
|             | proposed for the well:  |
|             | The temporary 2" well material will be removed. If no water is encountered, drill cuttings will be used to ten feet below ground surface (bgs) and plugged using hydrated bentonite. If groundwater is encountered the boring will be plugged, tremie from bottom to a slurry of Portland Type I/II cement in lifts.  |
| 2)          | Will well head be cut-off below land surface after plugging? <u>N/A</u>   |
| VI. PL      | UGGING AND SEALING MATERIALS:   |
|             | e plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.   |
| 1)          | For plugging intervals that employ cement grout, complete and attach Table A.   |
| 2)          | For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.  |
| 3)          | Theoretical volume of grout required to plug the well to land surface:  |
| 4)          | Type of Cement proposed: Type I/II  |
| 5)          | Proposed cement grout mix: <a>&lt;6.0</a> gallons of water per 94 pound sack of Portland cement.  |
| 6)          | Will the grout be:batch-mixed and delivered to the site   |
|             | X mixed on site   |
|             | DSE DIT NOU 8 2022 PM3:32   |

WD-08 Well Plugging Plan Version: July 31, 2019 Page 2 of 5

.

N/A

N/A

#### 7) Grout additives requested, and percent by dry weight relative to cement:

| 0)  |
|-----|
| A 1 |

N/A

Additional notes and calculations:

#### **<u>VII.</u> ADDITIONAL INFORMATION:** List additional information below, or on separate sheet(s):

#### VIII. SIGNATURE:

I, Kalei Jennings, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Kaeni Jannings 10/27/2022 Signature of Applicant Date **IX. ACTION OF THE STATE ENGINEER:** This Well Plugging Plan of Operations is: Approved subject to the attached conditions. OSE DIT NOU 8 2022 PM3:32 Not approved for the reasons provided on the attached letter. 9th day of November, 2022 Mike A. Manan John R. D. Manan John R. D. Manan Witness my hand and official seal this \_ KASH-IAP PAREKM By: W.R.M.I WD-08 Well Plugging Plan Version: July 31, 2019 Page 3 of 5

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## TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

|  | Interval 1 – deepest | Interval 2 | Interval 3 – most shallow   |
|--|----------------------|------------|---|
|  |                      |            | Note: if the well is<br>non-artesian and breaches<br>only one aquifer,<br>use only this column. |
| Top of proposed interval of grout placement (ft bgl)                                   | N/A                  | N/A        | 0   |
| Bottom of proposed<br>interval of grout<br>placement (ft bgl)                          | N/A                  | N/A        | 100   |
| Theoretical volume of<br>grout required per interval<br>(gallons)                      | N/A                  | N/A        | 287   |
| Proposed cement grout<br>mix gallons of water per<br>94-lb. sack of Portland<br>cement | N/A                  | N/A        | <6.0  |
| Mixed on-site or batch-<br>mixed and delivered?  | N/A                  | N/A        | onsite  |
| Grout additive 1<br>requested  | N/A                  | N/A        | N/A   |
| Additive 1 percent by dry weight relative to cement                                    | N/A                  | N/A        | N/A   |
| N/A<br>Grout additive 2<br>requested   |                      | N/A        | N/A   |
| Additive 2 percent by dry weight relative to cement                                    |                      |            | N/A<br>OSE DIT NOU 8 2022 №3:32   |

WD-08 Well Plugging Plan Version: July 31, 2019 Page 4 of 5

.

# TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

|   | Interval 1 – deepest | Interval 2 | Interval 3 – most shallow   |
|---|----------------------|------------|---|
|   |                      |            | Note: if the well is<br>non-artesian and breaches<br>only one aquifer,<br>use only this column. |
| Top of proposed interval<br>of sealant placement<br>(ft bgl)        | N/A                  | N/A        | 0   |
| Bottom of proposed<br>sealant of grout placement<br>(ft bgl)        | N/A                  | N/A        | 10  |
| Theoretical volume of<br>sealant required per<br>interval (gallons) | N/A                  | N/A        | 26  |
| Proposed abandonment<br>sealant (manufacturer and<br>trade name)    | N/A                  | N/A        | Baroid Hold Plug  |

OSE DIT NOU 8 2022 PM3:32



### United States Department of the Interior

BUREAU OF LAND MANAGEMENT Carlsbad Field Office 620 E. Greene St. Carlsbad, NM 88220-6292

In Reply Refer To: 3162.4 (NM-080) NMLC031670B

November 2, 2022

NM Office of the State Engineer 1900 W. Second St. Roswell, NM 88201

Re: SEMU Burger B 108 30-025-26269 Section 20, T20S-R38E 32.556715,-103.178192 Lea County, New Mexico

To Whom It May Concern:

The above well location and the immediate area mentioned above requires advanced soil boring to take place at approximately 110 feet below ground surface via an air rotary rig with hallow stem auger equipment. The boring will be secured and left open for 72 hours at which time Maverick Permian LLC will assess for the presence or absence of groundwater. An oil-water interface probe will be utilized to confirm depth to groundwater in the soil boring. The Bureau of Land Management (landowner) authorizes the access of the area to accomplish depth to groundwater determination of this site.

If you have any questions contact Crisha Morgan, at 575-234-5987.

Sincerely,

Crisha Morgan

Crisha A. Morgan Certified Environmental Protection Specialist

OSE DIT NOU 8 2022 PM3:32



#### STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER ROSWELL

Mike A. Hamman, P.E.

State Engineer

DISTRICT II 1900 West Second St. Roswell, New Mexico 88201 Phone: (575) 622-6521 Fax: (575) 623-8559

November 9, 2022

Maverick Natural Resources LLC 1410 NW County Road Hobbs, NM 88240

RE: Well Plugging Plan of Operations for well no. L-15414-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link <u>https://www.ose.state.nm.us/Statewide/wdForms.php</u>.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Sincerely,

K-Parehl

Kashyap Parekh Water Resources Manager I



STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER ROSWELL 1900 West Second St. Roswell, New Mexico 88201 Phone: (575) 622-6521 Fax: (575) 623- 8559

Applicant has identified wells, listed below, to be plugged. West Texas Drilling Services (WD-1184) will perform the plugging.

Permittee: Maverick Natural Resources, LLC NMOSE Permit Number: L-15414-POD1

| NMOSE File       | Casing<br>diameter<br>(inches) | Well<br>depth<br>(feet bgl) | Approximate<br>static water<br>level<br>(feet bgl) | Latitude       | Longitude        |
|------------------|--------------------------------|-----------------------------|--|----------------|------------------|
| L-15414-<br>POD1 | 2.0                            | 110.0                       | 100  | 32° 33' 23.46" | 103° 10' 41.55'' |

#### Specific Plugging Conditions of Approval for well located in Lea County.

- Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.
- 2. The total Theoretical volume of sealant required for abandonment of 2.0 inch diameter (I.D.) casing is approximately 287 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 110 feet.
- 3. <u>Ground Water encountered:</u> Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for the plugging the well.
- 4. **Dry Hole:** (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.
- 5. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.

- 6. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 3. of these Specific Conditions of Approval.
- 7. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.
- 8. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.
- 9. NMOSE witnessing of the plugging of the shallow well will not be required.
- 10. Any deviation from this plan must obtain an approved variance from this office prior to implementation.
- 11. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 9<sup>th</sup> day of November 2022

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh Water Resources Manager I





## APPENDIX C

Photographic Log

Released to Imaging: 2/22/2023 1:43:58 PM





### APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 2/7/2023 10:16:33 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 705 W. Wadley Suite 210 Midland Texas 79701 Generated 11/21/2022 2:43:23 PM

## JOB DESCRIPTION

SEMD PERMIAN SHEADER SDG NUMBER 03D2057025

### **JOB NUMBER**

890-3430-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220


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|                                     | Definitions/Glossary  |                                       |   |
|-------------------------------------|---|---------------------------------------|---|
| Client: Ensolur<br>Project/Site: Sl | -   | Job ID: 890-3430-1<br>SDG: 03D2057025 |   |
| Qualifiers                          |   |                                       |   |
| GC VOA<br>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.  |                                       |   |
| GC Semi VOA<br>Qualifier            | Qualifier Description   |                                       |   |
| F1                                  | MS and/or MSD recovery exceeds control limits.  |                                       |   |
| U                                   | Indicates the analyte was analyzed for but not detected.  |                                       |   |
| -<br>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)  |                                       | 1 |
| 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)  |                                       |   |

Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count

Reporting Limit or Requested Limit (Radiochemistry)

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

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

LOQ

MCL

MDA

MDC

MDL

MPN

MQL

NC

ND NEG

POS

PQL

PRES

QC

RER

RPD

TEF

TEQ TNTC

RL

ML

Job ID: 890-3430-1 SDG: 03D2057025

#### Job ID: 890-3430-1

Client: Ensolum

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3430-1

#### Receipt

The samples were received on 11/10/2022 3:11 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 4.2°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS05A (890-3430-1), FS06A (890-3430-2), FS07A (890-3430-3), FS04A (890-3430-4), FS03 (890-3430-5) and FS02 (890-3430-6).

#### GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: FS03 (890-3430-5). 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 880-39778 and analytical batch 880-39916 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: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39514 and analytical batch 880-39389 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

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

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

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

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Result Qualifier

<0.00199 U

<0.00199 U

<0.00199 U

<0.00398 UF1

<0.00199 UF1

<0.00398 UF1

80

108

< 0.00398

Result Qualifier

U

Result Qualifier

Result Qualifier

<50.0 U

<50.0 U

<50.0 U

<50.0 U

%Recovery Qualifier

103

89

492

Result Qualifier

Qualifier

%Recovery

RL

0.00199

0.00199

0.00199

0.00398

0.00199

0.00398

Limits

70 - 130 70 - 130

RL

RL

50.0

RL

50.0

50.0

50.0

RL

5.04

Limits

70 - 130

70 - 130

0.00398

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D

Prepared

11/17/22 09:35

11/17/22 09:35

11/17/22 09:35

11/17/22 09:35

11/17/22 09:35

11/17/22 09:35

Prepared

Job ID: 890-3430-1 SDG: 03D2057025

### Client Sample ID: FS05A

Date Collected: 11/10/22 10:45 Date Received: 11/10/22 15:11

Sample Depth: 12

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Analyte

Analyte

C10-C28)

Surrogate

o-Terphenyl

Analyte

Chloride

1-Chlorooctane

(GRO)-C6-C10

Total TPH

Total BTEX

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Gasoline Range Organics

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

Lab Sample ID: 890-3430-1

Analyzed

11/19/22 02:46

11/19/22 02:46

11/19/22 02:46

11/19/22 02:46

11/19/22 02:46

11/19/22 02:46

Analyzed

11/15/22 18:30

Lab Sample ID: 890-3430-2

Matrix: Solid

Dil Fa

1

Matrix: Solid

|       |   | 11/17/22 09:35 | 11/19/22 02:46 | 1       |    |
|-------|---|----------------|----------------|---------|----|
|       |   | 11/17/22 09:35 | 11/19/22 02:46 | 1       |    |
|       |   |                |                |         |    |
| Unit  | D | Prepared       | Analyzed       | Dil Fac |    |
| mg/Kg |   |                | 11/21/22 15:09 | 1       |    |
| Unit  | D | Prepared       | Analyzed       | Dil Fac | 13 |
| mg/Kg | _ |                | 11/15/22 09:20 | 1       | 14 |
| Unit  | D | Prepared       | Analyzed       | Dil Fac |    |
| mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:17 | 1       |    |
| mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:17 | 1       |    |
| mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:17 | 1       |    |
|       |   | Prepared       | Analyzed       | Dil Fac |    |
|       |   | 11/14/22 14:24 | 11/15/22 04:17 | 1       |    |
|       |   | 11/14/22 14:24 | 11/15/22 04:17 | 1       |    |
| Unit  | D | Prepared       | Analyzed       | Dil Fac |    |

| Client Sample ID: FS06A        |
|--------------------------------|
| Date Collected: 11/10/22 10:50 |
| Date Received: 11/10/22 15:11  |

Sample Depth: 12

| Method: SW846 8021B - Volati | ile Organic Comp | ounds (GC | )        |       |   |                |                |         |
|------------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                      | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                      | <0.00200         | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| Toluene                      | <0.00200         | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| Ethylbenzene                 | <0.00200         | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| m-Xylene & p-Xylene          | <0.00399         | U         | 0.00399  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| o-Xylene                     | <0.00200         | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| Xylenes, Total               | <0.00399         | U         | 0.00399  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| Surrogate                    | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)  | 103              |           | 70 - 130 |       |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |

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Released to Imaging: 2/22/2023 1:43:58 PM

#### **Client Sample Results**

Job ID: 890-3430-1 SDG: 03D2057025

Matrix: Solid

5

Lab Sample ID: 890-3430-2

#### Client Sample ID: FS06A

Date Collected: 11/10/22 10:50 Date Received: 11/10/22 15:11

Sample Depth: 12

Client: Ensolum

| Surrogate                                     | %Recovery      | Qualifier    | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|---|----------------|--------------|----------|-------|---|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr)                    | 106            |              | 70 - 130 |       |   | 11/17/22 09:35 | 11/19/22 03:06 | 1       |
| Method: TAL SOP Total BTEX - To               | otal BTEX Calo | ulation      |          |       |   |                |                |         |
| Analyte                                       | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                                    | <0.00399       | U            | 0.00399  | mg/Kg |   |                | 11/21/22 15:09 | 1       |
| Method: SW846 8015 NM - Diesel                | Range Organ    | ics (DRO) (  | GC)      |       |   |                |                |         |
| Analyte                                       | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total TPH                                     | <50.0          | U            | 50.0     | mg/Kg |   |                | 11/15/22 09:20 | 1       |
| Method: SW846 8015B NM - Diese                | el Range Orga  | nics (DRO)   | (GC)     |       |   |                |                |         |
| Analyte                                       | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Gasoline Range Organics                       | <50.0          | U            | 50.0     | mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:37 | 1       |
| (GRO)-C6-C10                                  | 50.0           |              | 50.0     |       |   |                |                |         |
| Diesel Range Organics (Over                   | <50.0          | U            | 50.0     | mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:37 | 1       |
| C10-C28)<br>Oll Range Organics (Over C28-C36) | <50.0          | U            | 50.0     | mg/Kg |   | 11/14/22 14:24 | 11/15/22 04:37 | 1       |
| Surrogate                                     | %Recovery      | Qualifier    | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                                | 116            |              | 70 - 130 |       |   | 11/14/22 14:24 | 11/15/22 04:37 | 1       |
| o-Terphenyl                                   | 98             |              | 70 - 130 |       |   | 11/14/22 14:24 | 11/15/22 04:37 | 1       |
| Method: MCAWW 300.0 - Anions,                 | Ion Chromato   | ography - So | oluble   |       |   |                |                |         |
| Analyte                                       |                | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Chloride                                      | 104            |              | 4.96     | mg/Kg |   |                | 11/15/22 18:51 | 1       |

Date Received: 11/10/22 15:11 Sample Depth: 12

| Analyte                                | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--|-------------------|-------------|----------|-------|---|----------------|----------------|---------|
| Benzene                                | <0.00199          | U           | 0.00199  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| Toluene                                | <0.00199          | U           | 0.00199  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| Ethylbenzene                           | <0.00199          | U           | 0.00199  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| m-Xylene & p-Xylene                    | <0.00398          | U           | 0.00398  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| o-Xylene                               | <0.00199          | U           | 0.00199  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| Xylenes, Total                         | <0.00398          | U           | 0.00398  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| Surrogate                              | %Recovery         | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)            | 92                |             | 70 - 130 |       |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| 1,4-Difluorobenzene (Surr)             | 109               |             | 70 - 130 |       |   | 11/17/22 09:35 | 11/19/22 03:27 | 1       |
| Method: TAL SOP Total BTEX             | - Total BTEX Cald | culation    |          |       |   |                |                |         |
| Analyte                                | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                             | <0.00398          | U           | 0.00398  | mg/Kg |   |                | 11/21/22 15:09 | 1       |
| -                                      | esel Range Organ  | ics (DRO) ( | GC)      |       |   |                |                |         |
| Method: SW846 8015 NM - Die            |                   |             |          |       |   |                |                |         |
| Method: SW846 8015 NM - Die<br>Analyte | • •               | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |

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Job ID: 890-3430-1 SDG: 03D2057025

Matrix: Solid

Dil Fac

Lab Sample ID: 890-3430-3

Analyzed

Lab Sample ID: 890-3430-4

Matrix: Solid

D

Prepared

## **Client Sample ID: FS07A**

Date Collected: 11/10/22 10:55 Date Received: 11/10/22 15:11

Sample Depth: 12

Client: Ensolum

| Method: SW846 8015B NM - Die | esel Range Orga | nics (DRO) (C | GC)  |       |
|------------------------------|-----------------|---------------|------|-------|
| Analyte                      | Result          | Qualifier     | RL   | Unit  |
| Gasoline Range Organics      | <49.9           |               | 49.9 | ma/Ka |

| Gasoline Range Organics<br>(GRO)-C6-C10 | <49.9     | U         | 49.9     | mg/Kg | 11/14/22 14:24 | 11/15/22 03:56 | 1       |
|---|-----------|-----------|----------|-------|----------------|----------------|---------|
| Diesel Range Organics (Over<br>C10-C28) | 58.4      |           | 49.9     | mg/Kg | 11/14/22 14:24 | 11/15/22 03:56 | 1       |
| Oll Range Organics (Over C28-C36)       | <49.9     | U         | 49.9     | mg/Kg | 11/14/22 14:24 | 11/15/22 03:56 | 1       |
| Surrogate                               | %Recovery | Qualifier | Limits   |       | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          |           |           | 70 - 130 |       | 11/14/22 14:24 | 11/15/22 03:56 | 1       |
| o-Terphenyl                             | 95        |           | 70 - 130 |       | 11/14/22 14:24 | 11/15/22 03:56 | 1       |

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

| Analyte  | Result Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|------------------|------|-------|---|----------|----------------|---------|
| Chloride | 190              | 4.96 | mg/Kg |   |          | 11/15/22 18:58 | 1       |

#### **Client Sample ID: FS04A**

Date Collected: 11/10/22 11:30 Date Received: 11/10/22 15:11

Sample Depth: 12

| Analyte  | Result   | Qualifier  | RL  | Unit          | D        | Prepared                | Analyzed   | Dil Fac                      |
|--|--|--|---|---------------|----------|-------------------------|--|------------------------------|
| Benzene  | <0.00201   | U  | 0.00201   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| Toluene  | <0.00201   | U  | 0.00201   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| Ethylbenzene   | <0.00201   | U  | 0.00201   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| m-Xylene & p-Xylene  | <0.00402   | U  | 0.00402   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| o-Xylene   | <0.00201   | U  | 0.00201   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| Xylenes, Total   | <0.00402   | U  | 0.00402   | mg/Kg         |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| Surrogate  | %Recovery  | Qualifier  | Limits  |               |          | Prepared                | Analyzed   | Dil Fac                      |
| 4-Bromofluorobenzene (Surr)  | 92   |  | 70 - 130  |               |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
|  |  |  |   |               |          |                         |  |                              |
|  | - Total BTEX Cald  | culation   | 70 - 130  |               |          | 11/17/22 09:35          | 11/19/22 03:47   | 1                            |
| 1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX   | - Total BTEX Calo  |  |   |               |          |                         |  | 1                            |
| Method: TAL SOP Total BTEX<br>Analyte  | - Total BTEX Calo<br>Result  | Qualifier  | RL  | Unit          | <u>D</u> | 11/17/22 09:35 Prepared | Analyzed   | 1<br>Dil Fac                 |
| Method: TAL SOP Total BTEX<br>Analyte  | - Total BTEX Calo  | Qualifier  |   | Unit<br>mg/Kg | <u>D</u> |                         |  | 1<br>Dil Fac                 |
| Method: TAL SOP Total BTEX<br>Analyte<br>Total BTEX  | - Total BTEX Calc<br>Result<br><0.00402  | Qualifier<br>U   | <b>RL</b><br>0.00402  |               | <u>D</u> |                         | Analyzed   | 1<br>Dil Fac                 |
| Method: TAL SOP Total BTEX<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Die   | - Total BTEX Calc<br>Result<br><0.00402<br>esel Range Organ                    | Qualifier<br>U   | <b>RL</b><br>0.00402  |               | <u>D</u> |                         | Analyzed   | 1                            |
| Method: TAL SOP Total BTEX<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Die<br>Analyte  | - Total BTEX Calc<br>Result<br><0.00402<br>esel Range Organ                    | Qualifier<br>U<br>ics (DRO) (<br>Qualifier                                 | RL<br>0.00402   | mg/Kg         |          | Prepared                | Analyzed   | 1<br>Dil Fac<br>1<br>Dil Fac |
|  | - Total BTEX Calc<br>Result<br><0.00402<br>esel Range Organ<br>Result<br><50.0 | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U                            | RL<br>0.00402<br>GC)<br>RL<br>50.0                                  | mg/Kg<br>Unit |          | Prepared                | Analyzed<br>11/21/22 15:09<br>Analyzed                   | 1                            |
| Method: TAL SOP Total BTEX<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Die<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - D | - Total BTEX Calc<br>Result<br><0.00402<br>esel Range Organ<br>Result<br><50.0 | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U                            | RL<br>0.00402<br>GC)<br>RL<br>50.0                                  | mg/Kg<br>Unit |          | Prepared                | Analyzed<br>11/21/22 15:09<br>Analyzed                   | 1                            |
| Method: TAL SOP Total BTEX<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Die<br>Analyte<br>Total TPH                               | - Total BTEX Calc<br>Result<br><0.00402<br>esel Range Organ<br>Result<br><50.0 | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U<br>nics (DRO)<br>Qualifier | RL         0.00402         GC)         RL         50.0         (GC) | mg/Kg         | D        | Prepared<br>Prepared    | Analyzed<br>11/21/22 15:09<br>Analyzed<br>11/15/22 09:20 | 1<br>Dil Fac                 |

<50.0 U 50.0 11/14/22 14:24 11/15/22 04:57 Oll Range Organics (Over C28-C36) mg/Kg 1 Limits Dil Fac %Recovery Qualifier Prepared Analyzed Surrogate 70 - 130 11/14/22 14:24 1-Chlorooctane 11/15/22 04:57 106 1 o-Terphenyl 95 70 - 130 11/14/22 14:24 11/15/22 04:57 1

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|   |                | Clier       | nt Sample Res | sults |   |                |                          |          |
|---|----------------|-------------|---------------|-------|---|----------------|--------------------------|----------|
| Client: Ensolum<br>Project/Site: SEMD PERMIAN SHE | ADER           |             |               |       |   |                | Job ID: 890<br>SDG: 03D2 |          |
| Client Sample ID: FS04A                           |                |             |               |       |   | l ah San       | nple ID: 890-            | 3430-4   |
| Date Collected: 11/10/22 11:30                    |                |             |               |       |   | Lab San        | -                        | x: Solic |
| Date Received: 11/10/22 15:11                     |                |             |               |       |   |                | Wath                     | x. 50m   |
| Sample Depth: 12                                  |                |             |               |       |   |                |                          |          |
| _   | lan Chromoto   | awan hu C   | alubla        |       |   |                |                          |          |
| Method: MCAWW 300.0 - Anions<br>Analyte           |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Chloride  | 198            |             | 5.00          | mg/Kg |   |                | 11/15/22 19:05           |          |
| Client Sample ID: FS03                            |                |             |               |       |   | Lab San        | nple ID: 890-            | 3430-{   |
| Date Collected: 11/10/22 12:55                    |                |             |               |       |   |                | -                        | x: Solid |
| Date Received: 11/10/22 15:11                     |                |             |               |       |   |                |                          |          |
| Sample Depth: 12                                  |                |             |               |       |   |                |                          |          |
| _<br>Method: SW846 8021B - Volatile               | Organic Comp   | ounde (GC   | <b>\</b>      |       |   |                |                          |          |
| Analyte   |                | Qualifier   | ,<br>RL       | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Benzene   | <0.00200       |             | 0.00200       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| Toluene   | <0.00200       |             | 0.00200       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| Ethylbenzene                                      | <0.00200       | U           | 0.00200       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| m-Xylene & p-Xylene                               | <0.00401       | U           | 0.00401       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| o-Xylene  | <0.00200       | U           | 0.00200       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| Xylenes, Total                                    | <0.00401       | U           | 0.00401       | mg/Kg |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| Surrogate   | %Recovery      | Qualifier   | Limits        |       |   | Prepared       | Analyzed                 | Dil Fa   |
| 4-Bromofluorobenzene (Surr)                       | 65             | S1-         | 70 - 130      |       |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| 1,4-Difluorobenzene (Surr)                        | 100            |             | 70 - 130      |       |   | 11/17/22 09:35 | 11/19/22 04:07           |          |
| -<br>Method: TAL SOP Total BTEX - T               | otal BTEX Calo | ulation     |               |       |   |                |                          |          |
| Analyte   | Result         | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Total BTEX  | <0.00401       | U           | 0.00401       | mg/Kg |   |                | 11/21/22 15:09           |          |
| _<br>Method: SW846 8015 NM - Diese                | l Range Organ  | ics (DRO) ( | GC)           |       |   |                |                          |          |
| Analyte   |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Total TPH   | <50.0          | U           | 50.0          | mg/Kg |   |                | 11/15/22 09:20           |          |
| -<br>Method: SW846 8015B NM - Dies                | el Range Orga  | nics (DRO)  | (GC)          |       |   |                |                          |          |
| Analyte   |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Gasoline Range Organics<br>(GRO)-C6-C10           | <50.0          | U           | 50.0          | mg/Kg |   | 11/14/22 14:24 | 11/15/22 03:36           |          |
| Diesel Range Organics (Over                       | <50.0          | U           | 50.0          | mg/Kg |   | 11/14/22 14:24 | 11/15/22 03:36           |          |
| C10-C28)<br>Oll Range Organics (Over C28-C36)     | <50.0          | U           | 50.0          | mg/Kg |   | 11/14/22 14:24 | 11/15/22 03:36           |          |
|   |                |             | 50.0          |       |   | 11/17/22 17.24 | 11/10/22 00.00           |          |
| Surrogate   | %Recovery      | Qualifier   | Limits        |       |   | Prepared       | Analyzed                 | Dil Fa   |
| 1-Chlorooctane                                    | 119            |             | 70 - 130      |       |   | 11/14/22 14:24 | 11/15/22 03:36           |          |
| o-Terphenyl                                       | 105            |             | 70 - 130      |       |   | 11/14/22 14:24 | 11/15/22 03:36           |          |
| Method: MCAWW 300.0 - Anions                      |                |             |               |       |   |                |                          |          |
| Analyte   |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed                 | Dil Fa   |
| Chloride  | 100            |             | 4.97          | mg/Kg |   |                | 11/15/22 19:12           |          |

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

Result Qualifier

RL

Unit

D

Job ID: 890-3430-1 SDG: 03D2057025

Analyzed

#### Client Sample ID: FS02

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

Sample Depth: 12

Client: Ensolum

Analyte

Lab Sample ID: 890-3430-6

Prepared

Matrix: Solid

Dil Fac

| Benzene  | <0.00202   | U              | 0.00202   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
|--|--|----------------|---|----------------|---|---|---|------------------------------------|
| Toluene  | <0.00202   | U              | 0.00202   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| Ethylbenzene   | <0.00202   | U              | 0.00202   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| m-Xylene & p-Xylene  | <0.00403   | U              | 0.00403   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| o-Xylene   | <0.00202   | U              | 0.00202   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| Xylenes, Total   | <0.00403   | U              | 0.00403   | mg/Kg          |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| Surrogate  | %Recovery  | Qualifier      | Limits  |                |   | Prepared  | Analyzed  | Dil Fac                            |
| 4-Bromofluorobenzene (Surr)  | 81   |                | 70 - 130  |                |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| 1,4-Difluorobenzene (Surr)   | 106  |                | 70 - 130  |                |   | 11/17/22 09:35  | 11/19/22 04:28  | 1                                  |
| Method: TAL SOP Total BTEX - To  | otal BTEX Calo                                       | ulation        |   |                |   |   |   |                                    |
| Analyte  | Result   | Qualifier      | RL  | Unit           | D | Prepared  | Analyzed  | Dil Fac                            |
| Total BTEX   | <0.00403   | U              | 0.00403   | mg/Kg          |   |   | 11/21/22 15:09  | 1                                  |
|  | <b>D</b>   |                | <b>CO</b> )   |                |   |   |   |                                    |
| Method: SW846 8015 NM - Diesel   | • •  |                | · ·   |                | _ | <u> </u>  |   |                                    |
| Analyte  |  | Qualifier      | RL  | Unit           | D | Prepared  | Analyzed  | Dil Fac                            |
| Total TPH  | 193  |                | 49.9  | mg/Kg          |   |   | 11/15/22 09:20  | 1                                  |
| -<br>Method: SW846 8015B NM - Diese  | el Range Orga  | nics (DRO)     | (GC)  |                |   |   |   |                                    |
| Analyte  | Result   | Qualifier      | RL  | Unit           | D | Prepared  | Analyzed  | Dil Fac                            |
| Gasoline Range Organics  | <49.9  |                |   |                |   |   |   | DIFac                              |
| (GRO)-C6-C10   |  | U              | 49.9  | mg/Kg          |   | 11/14/22 14:24  | 11/15/22 03:17  | 1                                  |
| (GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)  | 193  | U              | 49.9<br>49.9  | mg/Kg<br>mg/Kg |   | 11/14/22 14:24<br>11/14/22 14:24                                      | 11/15/22 03:17<br>11/15/22 03:17                                      | 1<br>1                             |
|  |  |                |   |                |   |   |   | 1                                  |
| Diesel Range Organics (Over<br>C10-C28)  | 193  | U              | 49.9  | mg/Kg          |   | 11/14/22 14:24  | 11/15/22 03:17  | 1                                  |
| Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)   | <b>193</b><br><49.9                                  | U              | 49.9<br>49.9  | mg/Kg          |   | 11/14/22 14:24<br>11/14/22 14:24                                      | 11/15/22 03:17<br>11/15/22 03:17                                      | 1<br>1<br>1                        |
| Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate                                  | <b>193</b><br><49.9<br><b>%Recovery</b>              | U              | 49.9<br>49.9<br><b>Limits</b>                         | mg/Kg          |   | 11/14/22 14:24<br>11/14/22 14:24<br><b>Prepared</b>                   | 11/15/22 03:17<br>11/15/22 03:17<br><b>Analyzed</b>                   | 1<br>1<br>1<br><b>Dil Fac</b>      |
| Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate<br>1-Chlorooctane                | <b>193</b><br><49.9<br><b>%Recovery</b><br>110<br>98 | U<br>Qualifier | 49.9<br>49.9<br><u>Limits</u><br>70 - 130<br>70 - 130 | mg/Kg          |   | 11/14/22 14:24<br>11/14/22 14:24<br><b>Prepared</b><br>11/14/22 14:24 | 11/15/22 03:17<br>11/15/22 03:17<br><b>Analyzed</b><br>11/15/22 03:17 | 1<br>1<br>1<br><i>Dil Fac</i><br>1 |
| Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl | 193<br><49.9<br>                                     | U<br>Qualifier | 49.9<br>49.9<br><u>Limits</u><br>70 - 130<br>70 - 130 | mg/Kg          |   | 11/14/22 14:24<br>11/14/22 14:24<br><b>Prepared</b><br>11/14/22 14:24 | 11/15/22 03:17<br>11/15/22 03:17<br><b>Analyzed</b><br>11/15/22 03:17 | 1<br>1<br>1<br><i>Dil Fac</i><br>1 |

#### Job ID: 890-3430-1 SDG: 03D2057025

Prep Type: Total/NA

Prep Type: Total/NA

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

Matrix: Solid

Client: Ensolum

|                       |                        | BFB1     | DFBZ1    | Percent Surrogate Recovery (Acceptance Limits) |   |
|-----------------------|------------------------|----------|----------|--|---|
| .ab Sample ID         | Client Sample ID       | (70-130) | (70-130) |  | 5 |
| 90-3430-1             | FS05A                  |          | 108      |  |   |
| 90-3430-1 MS          | FS05A                  | 92       | 100      |  | 6 |
| 90-3430-1 MSD         | FS05A                  | 94       | 105      |  |   |
| 90-3430-2             | FS06A                  | 103      | 106      |  |   |
| 90-3430-3             | FS07A                  | 92       | 109      |  |   |
| 90-3430-4             | FS04A                  | 92       | 113      |  | 9 |
| 90-3430-5             | FS03                   | 65 S1-   | 100      |  | U |
| 90-3430-6             | FS02                   | 81       | 106      |  | 6 |
| CS 880-39778/1-A      | Lab Control Sample     | 100      | 103      |  | 2 |
| CSD 880-39778/2-A     | Lab Control Sample Dup | 90       | 97       |  |   |
| B 880-39778/5-A       | Method Blank           | 75       | 106      |  |   |
| 1B 880-39818/5-A      | Method Blank           | 76       | 106      |  |   |
| Surrogate Legend      |                        |          |          |  |   |
| BFB = 4-Bromofluorobe |                        |          |          |  |   |

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

|                   |                        |          |          | Percent Surrogate Recovery (Acceptance Limit |
|-------------------|------------------------|----------|----------|--|
|                   |                        | 1CO1     | OTPH1    |  |
| Lab Sample ID     | Client Sample ID       | (70-130) | (70-130) |  |
| 90-3429-A-1-E MS  | Matrix Spike           | 103      | 90       |  |
| 90-3429-A-1-F MSD | Matrix Spike Duplicate | 115      | 102      |  |
| 390-3430-1        | FS05A                  | 103      | 89       |  |
| 390-3430-2        | FS06A                  | 116      | 98       |  |
| 390-3430-3        | FS07A                  | 111      | 95       |  |
| 390-3430-4        | FS04A                  | 106      | 95       |  |
| 90-3430-5         | FS03                   | 119      | 105      |  |
| 890-3430-6        | FS02                   | 110      | 98       |  |
| _CS 880-39514/2-A | Lab Control Sample     | 90       | 92       |  |
| CSD 880-39514/3-A | Lab Control Sample Dup | 91       | 91       |  |
| MB 880-39514/1-A  | Method Blank           | 98       | 107      |  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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

| Lab Sample ID: MB 880-39778/5-A<br>Matrix: Solid<br>Analysis Batch: 39916 |           |           |          |       |   | Client Sa      | mple ID: Metho<br>Prep Type: 기<br>Prep Batch | Fotal/NA |
|---|-----------|-----------|----------|-------|---|----------------|--|----------|
|   | МВ        | МВ        |          |       |   |                |  |          |
| Analyte   | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed                                     | Dil Fac  |
| Benzene   | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| Toluene   | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| Ethylbenzene  | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| m-Xylene & p-Xylene   | <0.00400  | U         | 0.00400  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| o-Xylene  | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| Xylenes, Total  | <0.00400  | U         | 0.00400  | mg/Kg |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
|   | МВ        | МВ        |          |       |   |                |  |          |
| Surrogate   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed                                     | Dil Fac  |
| 4-Bromofluorobenzene (Surr)   | 75        |           | 70 - 130 |       |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |
| 1,4-Difluorobenzene (Surr)  | 106       |           | 70 _ 130 |       |   | 11/17/22 09:35 | 11/19/22 02:17                               | 1        |

#### Lab Sample ID: LCS 880-39778/1-A Matrix: Solid

#### Analysis Batch: 39916

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.08007 |           | mg/Kg |   | 80   | 70 - 130 |  |
| Toluene             | 0.100 | 0.1029  |           | mg/Kg |   | 103  | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.1044  |           | mg/Kg |   | 104  | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.1912  |           | mg/Kg |   | 96   | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.09534 |           | mg/Kg |   | 95   | 70 - 130 |  |

|                             | LCS       | LCS       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 100       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 103       |           | 70 - 130 |

#### Lab Sample ID: LCSD 880-39778/2-A

#### Matrix: Solid

| Analysis Batch: 39916 |       |         |           |       |   |      | Prep     | Batch: | 39778 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.08010 |           | mg/Kg |   | 80   | 70 - 130 | 0      | 35    |
| Toluene               | 0.100 | 0.09753 |           | mg/Kg |   | 98   | 70 - 130 | 5      | 35    |
| Ethylbenzene          | 0.100 | 0.09716 |           | mg/Kg |   | 97   | 70 - 130 | 7      | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1792  |           | mg/Kg |   | 90   | 70 - 130 | 6      | 35    |
| o-Xylene              | 0.100 | 0.09015 |           | mg/Kg |   | 90   | 70 - 130 | 6      | 35    |
|                       |       |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 90        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 97        |           | 70 - 130 |

#### Lab Sample ID: 890-3430-1 MS Matrix: Solid

#### Analysia Pataby 20046

| Analysis Batch: 39916 |          |           |        |         |           |       |   |      | Prep Ba  | atch: 39778 |
|-----------------------|----------|-----------|--------|---------|-----------|-------|---|------|----------|-------------|
|                       | Sample   | Sample    | Spike  | MS      | MS        |       |   |      | %Rec     |             |
| Analyte               | Result   | Qualifier | Added  | Result  | Qualifier | Unit  | D | %Rec | Limits   |             |
| Benzene               | <0.00199 | U         | 0.0996 | 0.08070 |           | mg/Kg |   | 81   | 70 - 130 |             |
| Toluene               | <0.00199 | U         | 0.0996 | 0.08241 |           | mg/Kg |   | 83   | 70 - 130 |             |

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Client Sample ID: FS05A

Prep Type: Total/NA

# Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Job ID: 890-3430-1

SDG: 03D2057025

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

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

| Lab Sample ID: 890-3430-1 MS<br>Matrix: Solid |           |       |           |                      |         |           |       |   |      | C          | lient Samp<br>Prep Ty |          |       |
|---|-----------|-------|-----------|----------------------|---------|-----------|-------|---|------|------------|-----------------------|----------|-------|
| Analysis Batch: 39916                         |           |       |           |                      |         |           |       |   |      |            |                       | Batch:   |       |
|   | Sample    | Sam   | ple       | Spike                | MS      | MS        |       |   |      |            | %Rec                  |          |       |
| Analyte                                       | Result    | Qual  | lifier    | Added                | Result  | Qualifier | Unit  |   | D    | %Rec       | Limits                |          |       |
| Ethylbenzene                                  | <0.00199  | U     |           | 0.0996               | 0.07439 |           | mg/Kg |   |      | 75         | 70 - 130              |          |       |
| m-Xylene & p-Xylene                           | <0.00398  | UF1   |           | 0.199                | 0.1169  | F1        | mg/Kg |   |      | 59         | 70 - 130              |          |       |
| o-Xylene                                      | <0.00199  | U F1  |           | 0.0996               | 0.06442 | F1        | mg/Kg |   |      | 64         | 70 - 130              |          |       |
|   | MS        | мs    |           |                      |         |           |       |   |      |            |                       |          |       |
| Surrogate                                     | %Recovery | Qua   | lifier    | Limits               |         |           |       |   |      |            |                       |          |       |
| 4-Bromofluorobenzene (Surr)                   | 92        |       |           | 70 - 130             |         |           |       |   |      |            |                       |          |       |
| 1,4-Difluorobenzene (Surr)                    | 100       |       |           | 70 - 130             |         |           |       |   |      |            |                       |          |       |
| Lab Sample ID: 890-3430-1 MSI                 | C         |       |           |                      |         |           |       |   |      | C          | Client Samp           | le ID: I | FS05  |
| Matrix: Solid                                 |           |       |           |                      |         |           |       |   |      |            | Prep Ty               | pe: To   | tal/N |
| Analysis Batch: 39916                         |           |       |           |                      |         |           |       |   |      |            | Prep I                | Batch:   | 397   |
|   | Sample    | Sam   | ple       | Spike                | MSD     | MSD       |       |   |      |            | %Rec                  |          | RF    |
| Analyte                                       | Result    | Qual  | lifier    | Added                | Result  | Qualifier | Unit  |   | D    | %Rec       | Limits                | RPD      | Lin   |
| Benzene                                       | <0.00199  | U     |           | 0.0990               | 0.07660 |           | mg/Kg |   |      | 77         | 70 - 130              | 5        |       |
| oluene  | <0.00199  | U     |           | 0.0990               | 0.08282 |           | mg/Kg |   |      | 84         | 70 - 130              | 1        |       |
| Ethylbenzene                                  | <0.00199  | U     |           | 0.0990               | 0.07579 |           | mg/Kg |   |      | 77         | 70 - 130              | 2        |       |
| n-Xylene & p-Xylene                           | <0.00398  | U F1  |           | 0.198                | 0.1208  | F1        | mg/Kg |   |      | 61         | 70 - 130              | 3        |       |
| o-Xylene                                      | <0.00199  | U F1  |           | 0.0990               | 0.06756 | F1        | mg/Kg |   |      | 68         | 70 - 130              | 5        |       |
|   | MSD       |       |           |                      |         |           |       |   |      |            |                       |          |       |
| Surrogate                                     | %Recovery | Qua   | lifier    | Limits               |         |           |       |   |      |            |                       |          |       |
| 4-Bromofluorobenzene (Surr)                   | 94        |       |           | 70 - 130<br>70 - 120 |         |           |       |   |      |            |                       |          |       |
| 1,4-Difluorobenzene (Surr)                    | 105       |       |           | 70 - 130             |         |           |       |   |      |            |                       |          |       |
| Lab Sample ID: MB 880-39818/                  | 5-A       |       |           |                      |         |           |       |   |      | Client S   | ample ID: N           | ethod    | Bla   |
| Matrix: Solid                                 |           |       |           |                      |         |           |       |   |      | •          | Prep Ty               |          |       |
| Analysis Batch: 39916                         |           |       |           |                      |         |           |       |   |      |            |                       | Batch:   |       |
|   |           | мв    | мв        |                      |         |           |       |   |      |            |                       |          |       |
| Analyte                                       | R         | esult | Qualifier | RL                   | -       | Unit      | t     | D | Р    | repared    | Analyze               | d        | Dil F |
| Benzene                                       | <0.0      | 0200  | U         | 0.00200              | )       | mg/       | Kg    | _ | 11/1 | 7/22 13:46 | 11/18/22 14           | 1:42     |       |
| Toluene                                       | <0.0      | 0200  | U         | 0.00200              | )       | mg/       | Kg    |   | 11/1 | 7/22 13:46 | 11/18/22 14           | 1:42     |       |
| Ethylbenzene                                  | <0.0      | 0200  | U         | 0.00200              | )       | mg/       | Kg    |   | 11/1 | 7/22 13:46 | 11/18/22 14           | 1:42     |       |
| n-Xylene & p-Xylene                           | <0.0      | 0400  | U         | 0.00400              | )       | mg/       | Kg    |   | 11/1 | 7/22 13:46 | 11/18/22 14           | :42      |       |
| o-Xylene                                      | <0.0      | 0200  | U         | 0.00200              | )       | mg/       | Kg    |   | 11/1 | 7/22 13:46 | 11/18/22 14           | 1:42     |       |
| Xylenes, Total                                | <0.0      | 0400  | U         | 0.00400              | )       | mg/       | Kg    |   | 11/1 | 7/22 13:46 | 11/18/22 14           | 1:42     |       |
|   |           | ΜВ    |           |                      |         |           |       |   |      |            |                       |          |       |
| Surrogate                                     | %Reco     |       | Qualifier | Limits               | -       |           |       |   |      | repared    | Analyze               |          | Dil F |
| 4-Bromofluorobenzene (Surr)                   |           | 76    |           | 70 - 130             |         |           |       |   |      | 7/22 13:46 | 11/18/22 1            |          |       |
| 1,4-Difluorobenzene (Surr)                    |           | 106   |           | 70 - 130             |         |           |       |   | 11/1 | 7/22 13:46 | 11/18/22 1            | 1:42     |       |
| lethod: 8015B NM - Diesel                     | Range Or  | an    | nics (DR  | O) (GC)              |         |           |       |   | -    |            |                       |          |       |

#### Matrix: Solid Analysis Batch: 39389

| Analysis Batch: 39389                   |        |           |      |       |   |                | Prep Batch     | n: 39514 |
|---|--------|-----------|------|-------|---|----------------|----------------|----------|
|   | MB     | МВ        |      |       |   |                |                |          |
| Analyte                                 | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac  |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0  | U         | 50.0 | mg/Kg |   | 11/14/22 14:24 | 11/14/22 20:26 | 1        |

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Prep Type: Total/NA

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

Lab Sample ID: MB 880-39514/1-A

Matrix: Solid

Analyte

C10-C28)

Surrogate 1-Chlorooctane

o-Terphenyl

Analysis Batch: 39389

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

#### Method: 8015B NM - Diesel Range Organics (DR

MB MB

<50.0 U MB MB %Recovery Qualifier

> 98 107

Result Qualifier <50.0 U

|                | 57025                  | G: 03D20                     |  |            |                       |        |                |                   |        |  |             |
|----------------|------------------------|------------------------------|--|------------|-----------------------|--------|----------------|-------------------|--------|--|-------------|
|                |                        |                              |  |            |                       |        |                | ed)               | ntinue | D) (GC) (Co                                    | <b>XO</b> ) |
| 4              | tal/NA                 | Method<br>Type: To<br>Batch: |  | t Sa       | Client                |        |                |                   |        |  |             |
| 5              | Dil Fac                | zed                          | Analy                                  | d          | repared               | )      | 0              | Unit              |        | RL   |             |
|                | 1                      |                              | 11/14/22                               | :24        | 4/22 14:              | 11/    |                | mg/Kg             |        | 50.0   |             |
| 7              | 1                      | 20:26                        | 11/14/22                               | :24        | 4/22 14:              | 11/    | I              | mg/Kg             |        | 50.0   |             |
| 8              | Dil Fac                |                              | Analy                                  |            | Prepared              |        |                |                   |        | Limits   |             |
|                | 1                      | 20:26                        | 11/14/22                               | 1:24       | 4/22 14:              | 11/    |                |                   |        | 70 - 130                                       |             |
| 9              | 1                      | 20:26                        | 11/14/22                               | 1:24       | 4/22 14:              | 11/    |                |                   |        | 70 - 130                                       |             |
| 10             | tal/NA                 | Type: To                     |  | ple I      | t Samp                | Clien  |                |                   |        |  |             |
|                | 39514                  | Batch                        |  |            |                       |        |                |                   |        | <b>•</b> "                                     |             |
|                |                        |                              | %Rec                                   |            |                       | _      |                |                   | LCS    | Spike  |             |
|                |                        |                              | Limits                                 |            | %Rec                  | D      | Unit           | Qualifier         |        | Added  |             |
|                |                        |                              | 70 - 130                               | 6          | 100                   |        |                |                   | 1060   | 1000   |             |
|                |                        |                              |  | •          | 106                   |        | mg/Kg          |                   |        |  |             |
| 13             |                        |                              | 70 - 130                               |            | 94                    |        | mg/Kg<br>mg/Kg |                   | 937.0  | 1000   |             |
| 13<br>14       |                        |                              | 70 - 130                               |            |                       |        |                |                   | 937.0  |  | L           |
| 13<br>14       |                        |                              | 70 - 130                               |            |                       |        |                |                   | 937.0  | Limits   |             |
| 13<br>14<br>15 |                        |                              | 70 - 130                               |            |                       |        |                |                   | 937.0  | Limits<br>70 - 130                             | 7           |
| 13<br>14<br>15 |                        | Same                         |  | 4          | 94                    |        | mg/Kg          |                   | 937.0  | Limits   | 7           |
| 13<br>14<br>15 |                        |                              | ab Contro                              | 4          | 94                    | nt Sai | mg/Kg          |                   | 937.0  | Limits<br>70 - 130                             | 7           |
| 13<br>14<br>15 | tal/NA                 | Type: To                     | ab Contro<br>Prep                      | 4          | 94                    | nt Sai | mg/Kg          |                   | 937.0  | Limits<br>70 - 130                             | 7           |
| 13<br>14<br>15 | tal/NA<br>39514        |                              | ab Contro<br>Prep <sup>-</sup><br>Prep | 4          | 94                    | nt Sai | mg/Kg          | LCSD              |        | Limits<br>70 - 130<br>70 - 130                 | 7           |
| 13<br>14<br>15 | tal/NA<br>39514<br>RPD | Type: To<br>Batch:           | ab Contro<br>Prep<br>Prep<br>%Rec      | 4<br>D: La | 94<br>n <b>ple ID</b> |        | mg/Kg<br>Clien | LCSD<br>Qualifier | LCSD   | <u>Limits</u><br>70 - 130<br>70 - 130<br>Spike | 7(          |
| 13<br>14<br>15 | tal/NA<br>39514        | Type: To                     | ab Contro<br>Prep <sup>-</sup><br>Prep | 4<br>D: La | 94                    | nt Sai | mg/Kg          | LCSD<br>Qualifier | LCSD   | Limits<br>70 - 130<br>70 - 130                 | 7(          |

| Lab Sample ID: LCS 880-39514/2-A |
|----------------------------------|
| Matrix: Solid                    |

#### Analysis Batch: 39389

|                             |  | Spike  | LCS  | LCS   |   |  |  | %Rec  |
|-----------------------------|--|--|--|---|---|--|--|---|
| Analyte                     |  | Added  | Result   | Qualifier   | Unit  | D  | %Rec   | Limits  |
| Gasoline Range Organics     |  | 1000   | 1060   |   | mg/Kg   |  | 106  | 70 - 130  |
| (GRO)-C6-C10                |  |  |  |   |   |  |  |   |
| Diesel Range Organics (Over |  | 1000   | 937.0  |   | mg/Kg   |  | 94   | 70 - 130  |
| C10-C28)                    |  |  |  |   |   |  |  |   |
|                             | 105 105  |  |  |   |   |  |  |   |
|                             | Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over | Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over | AnalyteAddedGasoline Range Organics1000(GRO)-C6-C101000Diesel Range Organics (Over1000C10-C28)1000 | AnalyteAddedResultGasoline Range Organics10001060(GRO)-C6-C1000Diesel Range Organics (Over1000937.0C10-C28)00 | AnalyteAddedResultQualifierGasoline Range Organics10001060(GRO)-C6-C101000937.0Diesel Range Organics (Over1000937.0C10-C28)10001000 | AnalyteAddedResultQualifierUnitGasoline Range Organics10001060mg/Kg(GRO)-C6-C1000937.0mg/KgDiesel Range Organics (Over1000937.0mg/KgC10-C28)0000 | AnalyteAddedResultQualifierUnitDGasoline Range Organics10001060mg/Kg(GRO)-C6-C1001000937.0mg/KgDiesel Range Organics (Over1000937.0mg/KgC10-C28)0000 | AnalyteAddedResultQualifierUnitD%RecGasoline Range Organics10001060mg/Kg106106(GRO)-C6-C1010001000937.0mg/Kg94Diesel Range Organics (Over1000937.0mg/Kg94C10-C28)10001000100010001000 |

| Surrogate      | %Recovery | Qualifier | Limits   |
|----------------|-----------|-----------|----------|
| 1-Chlorooctane | 90        |           | 70 - 130 |
| o-Terphenyl    | 92        |           | 70 - 130 |

| Lab Sample ID: LCSD 880-39514/3-A |       |        |           | Clier | nt Sam | ple ID: | Lab Contro | ol Sampl | e Dup  |
|-----------------------------------|-------|--------|-----------|-------|--------|---------|------------|----------|--------|
| Matrix: Solid                     |       |        |           |       |        |         | Prep 1     | Type: To | tal/NA |
| Analysis Batch: 39389             |       |        |           |       |        |         | Prep       | Batch:   | 39514  |
|                                   | Spike | LCSD   | LCSD      |       |        |         | %Rec       |          | RPD    |
| Analyte                           | Added | Result | Qualifier | Unit  | D      | %Rec    | Limits     | RPD      | Limit  |
| Gasoline Range Organics           | 1000  | 1076   |           | mg/Kg |        | 108     | 70 - 130   | 2        | 20     |
| (GRO)-C6-C10                      |       |        |           |       |        |         |            |          |        |
| Diesel Range Organics (Over       | 1000  | 934.9  |           | mg/Kg |        | 93      | 70 - 130   | 0        | 20     |
| C10-C28)                          |       |        |           |       |        |         |            |          |        |

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

#### Lab Sample ID: 890-3429-A-1-E MS Matrix: Solid Analysis Ratch: 20290

| Analysis Batch: 39389                   |        |           |       |        |           |       |   |      | Prep     | Batch: 39514 |
|---|--------|-----------|-------|--------|-----------|-------|---|------|----------|--------------|
|   | Sample | Sample    | Spike | MS     | MS        |       |   |      | %Rec     |              |
| Analyte                                 | Result | Qualifier | Added | Result | Qualifier | Unit  | D | %Rec | Limits   |              |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0  | U F1      | 997   | 1209   |           | mg/Kg |   | 120  | 70 - 130 |              |
| Diesel Range Organics (Over<br>C10-C28) | <50.0  | U         | 997   | 1026   |           | mg/Kg |   | 103  | 70 - 130 |              |

|                | MS        | MS        |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 103       |           | 70 - 130 |
| o-Terphenyl    | 90        |           | 70 - 130 |

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**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

Job ID: 890-3430-1

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

Job ID: 890-3430-1 SDG: 03D2057025

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

| Matrix: Solid  |   |                     |  |   |   |                       | lient Sa |  | Prep 1  | Гуре: То  | tal/N                      |
|--|---|---------------------|--|---|---|-----------------------|----------|--|---|---|----------------------------|
| Analysis Batch: 39389  |   |                     |  |   |   |                       |          |  |   | Batch:  |                            |
|  | Sample  | Sample              | Spike  | MSD   | MSD   |                       |          |  | %Rec  |   | RP                         |
| Analyte  | -   | Qualifier           | Added  |   | Qualifier   | Unit                  | D        | %Rec   | Limits  | RPD   | Lim                        |
| Gasoline Range Organics  | <50.0   |                     | 999  | 1387  |   | mg/Kg                 |          | 137  | 70 - 130  | 14  | 2                          |
| (GRO)-C6-C10   | 00.0  |                     | 000  |   |   |                       |          |  | 10 - 100  |   | -                          |
| Diesel Range Organics (Over<br>C10-C28)  | <50.0   | U                   | 999  | 1164  |   | mg/Kg                 |          | 117  | 70 - 130  | 13  | 2                          |
|  | MED   | MSD                 |  |   |   |                       |          |  |   |   |                            |
| 0  |   |                     | 1  |   |   |                       |          |  |   |   |                            |
| Surrogate<br>1-Chlorooctane  | % <i>Recovery</i>                                       | Qualifier           | Limits<br>70 - 130   |   |   |                       |          |  |   |   |                            |
|  | 102   |                     | 70 - 130<br>70 - 130   |   |   |                       |          |  |   |   |                            |
| o-Terphenyl  | 102   |                     | 10 - 130   |   |   |                       |          |  |   |   |                            |
| lethod: 300.0 - Anions,<br>Lab Sample ID: MB 880-394   |   | ography             |  |   |   |                       |          | Client S   | Sample ID:  | Method  | Blar                       |
| Matrix: Solid  | -0/1-/  |                     |  |   |   |                       |          | onent e  | -   | Type: S   |                            |
| Analysis Batch: 39641  |   |                     |  |   |   |                       |          |  | ineb  | The o   | Siub                       |
| Analysis Datch. 55041  |   | MB MB               |  |   |   |                       |          |  |   |   |                            |
| Analyte  | R   | esult Qualifier     | R  |   | Unit  |                       | D P      | repared  | Analyz  | hov   | Dil F                      |
| Chloride   |   | 5.00 U              |  |   | 0mr<br>mg/K                                       |                       |          | repared  | 11/15/22  |   |                            |
| Shionde  |   | 0.00 0              | 0.0  | 0   | ilig/it   | 9                     |          |  | 11/10/22  | 17.20   |                            |
| Lab Sample ID: LCS 880-394   | 448/2-A   |                     |  |   |   |                       | Client   | Sample   | D: Lab Co   | ontrol S  | amp                        |
| Matrix: Solid  |   |                     |  |   |   |                       |          |  |   | Type: S   |                            |
|  |   |                     |  |   |   |                       |          |  |   | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,               |                            |
| Analysis Batch: 39641  |   |                     |  |   |   |                       |          |  |   |   |                            |
| Analysis Batch: 39641  |   |                     | Spike  | LCS   | LCS   |                       |          |  | %Rec  |   |                            |
|  |   |                     | Spike<br>Added   |   | LCS<br>Qualifier                                  | Unit                  | D        | %Rec   | %Rec<br>Limits  |   |                            |
| Analyte  |   |                     | Added  | Result  | LCS<br>Qualifier                                  | Unit<br>mg/Kg         | <u>D</u> | %Rec   | %Rec<br>Limits<br>90 - 110  |   |                            |
| Analyte  |   |                     |  |   |   | Unit<br>mg/Kg         | <u>D</u> |  | Limits  |   |                            |
| Analyte<br>Chloride  | <br>9448/3-A  |                     | Added  | Result  |   | mg/Kg                 |          | 104  | Limits  |   | le Di                      |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3   | 9448/3-A  |                     | Added  | Result  |   | mg/Kg                 |          | 104  | Limits<br>90 - 110<br>Lab Contro  |   |                            |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid  | 9448/3-A  |                     | Added  | Result  |   | mg/Kg                 |          | 104  | Limits<br>90 - 110<br>Lab Contro  | DI Sampl<br>Type: S                                   |                            |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid  | 9448/3-A  |                     | Added  | Result<br>259.6   |   | mg/Kg                 |          | 104  | Limits<br>90 - 110<br>Lab Contro  |   | olub                       |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641   | 9448/3-A  |                     | Added250   | Result<br>259.6   | Qualifier   | mg/Kg                 |          | 104  | Limits<br>90 - 110<br>Lab Contro<br>Prep  |   | olub<br>Ri                 |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte  | 9448/3-A  |                     | Added<br>250<br>Spike  | Result<br>259.6   | Qualifier   | mg/Kg<br>Clie<br>Unit | nt Sam   | 104  | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec  | Type: S   | RI<br>Lir                  |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte  | 9448/3-A<br>  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>259.6<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Clie         | nt Sam   | 104  | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits  | Type: S   | olub<br>RI<br>Lir          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride  |   |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>259.6<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Clie<br>Unit | nt Sam   | 104<br><b>nple ID:</b><br><b>%Rec</b><br>107             | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits  | Type: S   | RI<br>Lir                  |
| Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid  |   |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>259.6<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Clie<br>Unit | nt Sam   | 104<br><b>nple ID:</b><br><b>%Rec</b><br>107             | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID   | Type: S<br><u>RPD</u><br><u>3</u><br>: Matrix         | RI<br>Lir<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid   |   |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>259.6<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Clie<br>Unit | nt Sam   | 104<br><b>nple ID:</b><br><b>%Rec</b><br>107             | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID   | Type: S   | RF<br>Lin<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid   | <br>1-B MS  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>259.6<br>LCSD<br>Result<br>266.9                          | Qualifier   | mg/Kg<br>Clie<br>Unit | nt Sam   | 104<br><b>nple ID:</b><br><b>%Rec</b><br>107             | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID   | Type: S<br><u>RPD</u><br><u>3</u><br>: Matrix         | RF<br>Lin<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analysis Batch: 39641  | <br>1-B MS<br>Sample                                    | Sample<br>Qualifier | Added<br>250<br>Spike<br>Added<br>250                          | Result<br>259.6<br>LCSD<br>Result<br>266.9                          | Qualifier<br>LCSD<br>Qualifier                    | mg/Kg<br>Clie<br>Unit | nt Sam   | 104<br><b>nple ID:</b><br><b>%Rec</b><br>107             | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep   | Type: S<br><u>RPD</u><br><u>3</u><br>: Matrix         | RI<br>Lir<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte  | <br>1-B MS<br>Sample                                    | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike                 | Result<br>259.6<br>LCSD<br>Result<br>266.9                          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg         | <u>D</u> | 104<br>nple ID: 1<br>%Rec<br>107<br>Client               | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec   | Type: S<br><u>RPD</u><br><u>3</u><br>: Matrix         | RF<br>Lin<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte  | -1-B MS<br>Sample<br>Result                             | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>Unit<br>Unit  | <u>D</u> | 104<br>nple ID:  <br>%Rec<br>107<br>Client<br>%Rec       | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits                                     | Type: S<br><u>RPD</u><br><u>3</u><br>: Matrix         | RI<br>Lir<br>Spil          |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride                               | 1-B MS<br>Sample<br>Result<br>52.7                      | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg         | nt Sam   | 104<br>nple ID: 1<br>%Rec<br>107<br>Client<br>%Rec<br>98 | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits                                     | Type: S<br><u>RPD</u><br>3<br>: Matrix<br>Type: S     | Spil                       |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A- | 1-B MS<br>Sample<br>Result<br>52.7                      | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg         | nt Sam   | 104<br>nple ID: 1<br>%Rec<br>107<br>Client<br>%Rec<br>98 | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>D: Matrix Sp         | Type: S<br><u>RPD</u><br>3<br>: Matrix<br>Type: S     | Ri<br>Lir<br>Spil<br>colub |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid         | 1-B MS<br>Sample<br>Result<br>52.7                      | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg         | nt Sam   | 104<br>nple ID: 1<br>%Rec<br>107<br>Client<br>%Rec<br>98 | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>D: Matrix Sp         | Type: S<br><u>RPD</u><br>3<br>: Matrix<br>Type: S<br> | RI<br>Lir<br>Spil<br>colub |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-<br>Matrix: Solid         | -1-B MS<br>Sample<br><u>Result</u><br>52.7              | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result<br>300.0 | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg         | nt Sam   | 104<br>nple ID: 1<br>%Rec<br>107<br>Client<br>%Rec<br>98 | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>D: Matrix Sp         | Type: S<br><u>RPD</u><br>3<br>: Matrix<br>Type: S<br> | Spillolub                  |
| Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39641<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3429-A-  | 1-B MS<br>Sample<br>Result<br>52.7<br>1-C MSD<br>Sample | Qualifier           | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added<br>253 | Result<br>259.6<br>LCSD<br>Result<br>266.9<br>MS<br>Result<br>300.0 | Qualifier<br>LCSD<br>Qualifier<br>MS<br>Qualifier | Unit<br>mg/Kg         | nt Sam   | 104<br>nple ID: 1<br>%Rec<br>107<br>Client<br>%Rec<br>98 | Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>D: Matrix Sp<br>Prep | Type: S<br><u>RPD</u><br>3<br>: Matrix<br>Type: S<br> | olub<br>RF<br>             |

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER Job ID: 890-3430-1 SDG: 03D2057025

#### **GC VOA**

#### Prep Batch: 39778

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batcl |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3430-1         | FS05A                  | Total/NA  | Solid  | 5035   |            |
| 890-3430-2         | FS06A                  | Total/NA  | Solid  | 5035   |            |
| 890-3430-3         | FS07A                  | Total/NA  | Solid  | 5035   |            |
| 890-3430-4         | FS04A                  | Total/NA  | Solid  | 5035   |            |
| 890-3430-5         | FS03                   | Total/NA  | Solid  | 5035   |            |
| 890-3430-6         | FS02                   | Total/NA  | Solid  | 5035   |            |
| MB 880-39778/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-39778/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-39778/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3430-1 MS      | FS05A                  | Total/NA  | Solid  | 5035   |            |
| 890-3430-1 MSD     | FS05A                  | Total/NA  | Solid  | 5035   |            |

#### Prep Batch: 39818

| Lab Sample ID    | Client Sample ID | Ргер Туре | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-39818/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 39916

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3430-1         | FS05A                  | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-2         | FS06A                  | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-3         | FS07A                  | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-4         | FS04A                  | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-5         | FS03                   | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-6         | FS02                   | Total/NA  | Solid  | 8021B  | 39778      |
| MB 880-39778/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 39778      |
| MB 880-39818/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 39818      |
| LCS 880-39778/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 39778      |
| LCSD 880-39778/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-1 MS      | FS05A                  | Total/NA  | Solid  | 8021B  | 39778      |
| 890-3430-1 MSD     | FS05A                  | Total/NA  | Solid  | 8021B  | 39778      |

#### Analysis Batch: 40122

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3430-1    | FS05A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3430-2    | FS06A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3430-3    | FS07A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3430-4    | FS04A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3430-5    | FS03             | Total/NA  | Solid  | Total BTEX |            |
| 890-3430-6    | FS02             | Total/NA  | Solid  | Total BTEX |            |

#### GC Semi VOA

#### Analysis Batch: 39389

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method   | Prep Batch |
|------------------|------------------|-----------|--------|----------|------------|
| 890-3430-1       | FS05A            | Total/NA  | Solid  | 8015B NM | 39514      |
| 890-3430-2       | FS06A            | Total/NA  | Solid  | 8015B NM | 39514      |
| 890-3430-3       | FS07A            | Total/NA  | Solid  | 8015B NM | 39514      |
| 890-3430-4       | FS04A            | Total/NA  | Solid  | 8015B NM | 39514      |
| 890-3430-5       | FS03             | Total/NA  | Solid  | 8015B NM | 39514      |
| 890-3430-6       | FS02             | Total/NA  | Solid  | 8015B NM | 39514      |
| MB 880-39514/1-A | Method Blank     | Total/NA  | Solid  | 8015B NM | 39514      |

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Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

#### GC Semi VOA (Continued)

#### Analysis Batch: 39389 (Continued)

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |    |
|-----------------------|------------------------|-----------|--------|-------------|------------|----|
| LCS 880-39514/2-A     | Lab Control Sample     | Total/NA  | Solid  | 8015B NM    | 39514      |    |
| LCSD 880-39514/3-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM    | 39514      | 5  |
| 890-3429-A-1-E MS     | Matrix Spike           | Total/NA  | Solid  | 8015B NM    | 39514      |    |
| 890-3429-A-1-F MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM    | 39514      |    |
| Prep Batch: 39514     |                        |           |        |             |            |    |
| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch | _  |
| 890-3430-1            | FS05A                  | Total/NA  | Solid  | 8015NM Prep |            | 8  |
| 890-3430-2            | FS06A                  | Total/NA  | Solid  | 8015NM Prep |            |    |
| 890-3430-3            | FS07A                  | Total/NA  | Solid  | 8015NM Prep |            | 9  |
| 890-3430-4            | FS04A                  | Total/NA  | Solid  | 8015NM Prep |            |    |
| 890-3430-5            | FS03                   | Total/NA  | Solid  | 8015NM Prep |            |    |
| 890-3430-6            | FS02                   | Total/NA  | Solid  | 8015NM Prep |            |    |
| MB 880-39514/1-A      | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |    |
| LCS 880-39514/2-A     | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |    |
| LCSD 880-39514/3-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |    |
| 890-3429-A-1-E MS     | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |    |
| 890-3429-A-1-F MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            | 12 |
| Analysis Batch: 39580 |                        |           |        |             |            |    |
| Lab Sample ID         | Client Sample ID       | Ргер Туре | Matrix | Method      | Prep Batch |    |
| 890-3430-1            | FS05A                  | Total/NA  | Solid  | 8015 NM     |            |    |

| 890-3430-1 | FS05A | Total/NA | Solid | 8015 NM |
|------------|-------|----------|-------|---------|
| 890-3430-2 | FS06A | Total/NA | Solid | 8015 NM |
| 890-3430-3 | FS07A | Total/NA | Solid | 8015 NM |
| 890-3430-4 | FS04A | Total/NA | Solid | 8015 NM |
| 890-3430-5 | FS03  | Total/NA | Solid | 8015 NM |
| 890-3430-6 | FS02  | Total/NA | Solid | 8015 NM |

#### HPLC/IC

#### Leach Batch: 39448

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3430-1         | FS05A                  | Soluble   | Solid  | DI Leach |            |
| 890-3430-2         | FS06A                  | Soluble   | Solid  | DI Leach |            |
| 890-3430-3         | FS07A                  | Soluble   | Solid  | DI Leach |            |
| 890-3430-4         | FS04A                  | Soluble   | Solid  | DI Leach |            |
| 890-3430-5         | FS03                   | Soluble   | Solid  | DI Leach |            |
| 890-3430-6         | FS02                   | Soluble   | Solid  | DI Leach |            |
| MB 880-39448/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-39448/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-39448/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3429-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3429-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

#### Analysis Batch: 39641

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 890-3430-1    | FS05A            | Soluble   | Solid  | 300.0  | 39448      |
| 890-3430-2    | FS06A            | Soluble   | Solid  | 300.0  | 39448      |
| 890-3430-3    | FS07A            | Soluble   | Solid  | 300.0  | 39448      |
| 890-3430-4    | FS04A            | Soluble   | Solid  | 300.0  | 39448      |
| 890-3430-5    | FS03             | Soluble   | Solid  | 300.0  | 39448      |

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Job ID: 890-3430-1 SDG: 03D2057025

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

#### HPLC/IC (Continued)

#### Analysis Batch: 39641 (Continued)

| ab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 90-3430-6         | FS02                   | Soluble   | Solid  | 300.0  | 39448      |
| IB 880-39448/1-A  | Method Blank           | Soluble   | Solid  | 300.0  | 39448      |
| CS 880-39448/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 39448      |
| CSD 880-39448/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 39448      |
| 90-3429-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 39448      |
| 0-3429-A-1-C MSD  | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 39448      |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |
|                   |                        |           |        |        |            |

Job ID: 890-3430-1 SDG: 03D2057025

Job ID: 890-3430-1 SDG: 03D2057025

#### Lab Sample ID: 890-3430-1 Matrix: Solid

Lab Sample ID: 890-3430-2

Date Collected: 11/10/22 10:45 Date Received: 11/10/22 15:11

**Client Sample ID: FS05A** 

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 39778  | 11/17/22 09:35 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 39916  | 11/19/22 02:46 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40122  | 11/21/22 15:09 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 39580  | 11/15/22 09:20 | AJ      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 39514  | 11/14/22 14:24 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 39389  | 11/15/22 04:17 | AJ      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.96 g  | 50 mL  | 39448  | 11/14/22 11:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 39641  | 11/15/22 18:30 | СН      | EET MID |

#### **Client Sample ID: FS06A**

Date Collected: 11/10/22 10:50

Date Received: 11/10/22 15:11

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.01 g  | 5 mL   | 39778  | 11/17/22 09:35 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 39916  | 11/19/22 03:06 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40122  | 11/21/22 15:09 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 39580  | 11/15/22 09:20 | AJ      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 39514  | 11/14/22 14:24 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 39389  | 11/15/22 04:37 | AJ      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.04 g  | 50 mL  | 39448  | 11/14/22 11:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 39641  | 11/15/22 18:51 | СН      | EET MID |

#### **Client Sample ID: FS07A** Date Collected: 11/10/22 10:55

#### Date Received: 11/10/22 15:11

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.02 g  | 5 mL   | 39778  | 11/17/22 09:35 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 39916  | 11/19/22 03:27 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40122  | 11/21/22 15:09 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 39580  | 11/15/22 09:20 | AJ      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.02 g | 10 mL  | 39514  | 11/14/22 14:24 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 39389  | 11/15/22 03:56 | AJ      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.04 g  | 50 mL  | 39448  | 11/14/22 11:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 39641  | 11/15/22 18:58 | CH      | EET MID |

#### **Client Sample ID: FS04A** Date Collected: 11/10/22 11:30 Date Received: 11/10/22 15:11

|           | Batch    | Batch      |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method     | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035       |     |        | 4.97 g  | 5 mL   | 39778  | 11/17/22 09:35 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B      |     | 1      | 5 mL    | 5 mL   | 39916  | 11/19/22 03:47 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX |     | 1      |         |        | 40122  | 11/21/22 15:09 | SM      | EET MID |

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Lab Sample ID: 890-3430-4

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#### Matrix: Solid

Matrix: Solid

Released to Imaging: 2/22/2023 1:43:58 PM

Matrix: Solid

Job ID: 890-3430-1 SDG: 03D2057025

#### Lab Sample ID: 890-3430-4 Matrix: Solid

Lab Sample ID: 890-3430-5

#### Date Collected: 11/10/22 11:30 Date Received: 11/10/22 15:11

**Client Sample ID: FS04A** 

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 39580  | 11/15/22 09:20 | AJ      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.00 g | 10 mL  | 39514  | 11/14/22 14:24 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 39389  | 11/15/22 04:57 | AJ      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5 g     | 50 mL  | 39448  | 11/14/22 11:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 39641  | 11/15/22 19:05 | СН      | EET MID |

## Client Sample ID: FS03

#### Date Collected: 11/10/22 12:55 Date Received: 11/10/22 15:11

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.99 g  | 5 mL   | 39778  | 11/17/22 09:35 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 39916  | 11/19/22 04:07 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40122  | 11/21/22 15:09 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 39580  | 11/15/22 09:20 | AJ      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 39514  | 11/14/22 14:24 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 39389  | 11/15/22 03:36 | AJ      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.03 g  | 50 mL  | 39448  | 11/14/22 11:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 39641  | 11/15/22 19:12 | СН      | EET MID |

#### **Client Sample ID: FS02**

#### Date Collected: 11/10/22 13:00 Date Received: 11/10/22 15:11

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep 5035 4.96 g 5 mL 39778 11/17/22 09:35 MNR EET MID Total/NA 8021B 5 mL 5 mL 39916 11/19/22 04:28 MNR EET MID Analysis 1 Total/NA Total BTEX Analysis 1 40122 11/21/22 15:09 SM EET MID Total/NA Analysis 8015 NM 39580 11/15/22 09:20 AJ EET MID 1 Total/NA Prep 8015NM Prep 10.02 g 10 mL 39514 11/14/22 14:24 DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 39389 11/15/22 03:17 AJ EET MID 1 Soluble Leach DI Leach 4.97 g 50 mL 39448 11/14/22 11:42 KS EET MID Soluble Analysis 300.0 39641 11/15/22 19:19 СН EET MID 1

#### Laboratory References:

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

)-4 Jid \_\_\_\_\_ 4 \_\_\_\_ 5

## Lab Sample ID: 890-3430-6

Matrix: Solid

Matrix: Solid

## Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER

#### Laboratory: Eurofins Midland

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

| uthority  | P                                   | rogram                           | Identification Number                        | Expiration Date           |
|---|-------------------------------------|----------------------------------|--|---------------------------|
| xas   | N                                   | IELAP                            | T104704400-22-24                             | 06-30-23                  |
| The following analytes                              | are included in this report, b      | out the laboratory is not certif | ied by the governing authority. This list ma | ay include analytes for v |
| the agency does not o<br>Analysis Method            |                                     | Matrix                           | Analvte                                      |                           |
| the agency does not o<br>Analysis Method<br>8015 NM | ffer certification .<br>Prep Method | Matrix<br>Solid                  | Analyte<br>Total TPH                         |                           |

Job ID: 890-3430-1 SDG: 03D2057025

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Eurofins Carlsbad

#### Job ID: 890-3430-1 SDG: 03D2057025

| 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:

Client: Ensolum

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

Eurofins Carlsbad

#### **Sample Summary**

Client: Ensolum Project/Site: SEMD PERMIAN SHEADER Job ID: 890-3430-1 SDG: 03D2057025

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |   |
|---------------|------------------|--------|----------------|----------------|-------|---|
| 890-3430-1    | FS05A            | Solid  | 11/10/22 10:45 | 11/10/22 15:11 | 12    | _ |
| 890-3430-2    | FS06A            | Solid  | 11/10/22 10:50 | 11/10/22 15:11 | 12    |   |
| 890-3430-3    | FS07A            | Solid  | 11/10/22 10:55 | 11/10/22 15:11 | 12    |   |
| 890-3430-4    | FS04A            | Solid  | 11/10/22 11:30 | 11/10/22 15:11 | 12    |   |
| 890-3430-5    | FS03             | Solid  | 11/10/22 12:55 | 11/10/22 15:11 | 12    |   |
| 890-3430-6    | FS02             | Solid  | 11/10/22 13:00 | 11/10/22 15:11 | 12    |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |
|               |                  |        |                |                |       |   |

| Hobbs, NM       LC     Company Name:       QL     Company Name:       QL     City, State ZIP:       QL     City, State ZIP:       QL     Turn Around       Pres     Rush       Correction Factor:     The lab. if received by 4:30pm       Yes     No       Wet ke:     Yes       Corrected Temperature     H. Yes       Date     Time       Sampled     Sampled       Sampled     Sampled       Sonstitutes a valid purchase order from client company to Europerature in the company to Eu | Hobb.     NM (575) 392-7550, Carlsbad, NM (575) 988-3       Bill to:     (if different)     Val L     Val L     Val L       Lucy     Address:     S127     Alpha Mings       Low     City, State ZIP:     S127     Alpha Mings       Verifie     Basin     Code     Parameters       No     City     Signality     Signality     Signality       No     City     Signality     City     Signality       No     City     City     Signality     Signality       No     City     City     City     Signality       No     City     City     City     Signality       No     City     City     City     Signality  | Induct:     Lind(1)     Lind(1) <thlind(1)< th=""> <thlind(1)< th=""> <thlind(1)< th=""></thlind(1)<></thlind(1)<></thlind(1)<> | Index NATURE         HACLINE (http:////inter.provide/i | 3 June 1 | Relinquished by: (Signature) | Notice: Signature of this document and relinquishment of samples constitutes a val<br>of service. Eurofins Xenco will be liable only for the cost of samples and shall not as<br>of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and | Total 200.7 / 6010 200.8 / 6020: 8RC<br>Circle Method(s) and Metal(s) to be analyzed |  | FS02 S 11-11-22 | FSOS SILIE |    | ESDA SILIAZ | Ĩ   | TİX        |       | Seals: Yes No (N/A) | Yes No MA | Thermometer | SAMPLE RECEIPT Temp Blank: (Yes) No | PO #: | 32,549475-118,190421 | Project Number: NSD2057025 | Project Name: SOMD Fermion Shood | 1452-551-5895 | City, State ZIP: OccV/Slociol, WYM, 452 | 3 | QMS011        | Project Manager: Had lip (Syd of) |
|--|--|---|--|----------|------------------------------|---|--|--|-----------------|------------|----|-------------|-----|------------|-------|---------------------|-----------|-------------|-------------------------------------|-------|----------------------|----------------------------|----------------------------------|---------------|---|---|---------------|-----------------------------------|
|  | (575) 392-7550, Carlsbad, NM (575) 988-3<br>PHOLPL YOUMA<br>SULUTAL COMPLEX<br>SULUTAL COMPLEX<br>S |   | www.xenco.com       Page         UST/PST       PRP       Brownfields[         oject:       EDD       ADaPT         EDD       ADaPT       Hit         FDD       ADaPT       Hit         ADaPT       Hit       None: N         ADaPT       Hit       None: N         ADaPT       Hit       SiO2, Na         Si       Hit       SiO2, Na         Hit       K Se       Ag SiO2, Na         Hit       K Si       Si         Koreived       Si       Si         Koreived       Si       Si         Koreived       Si       Si         Koreived       Si       Si         Bi       Si       Si         Bi       Si       Si         Si       Si       Si         Si       Si       Si   |          | : (Signature)                | id purchase order from client company to Eu<br>sume any responsibility for any losses or expe<br>1 a charge of \$5 for each sample submitted to   | TCLP / SPLP 6010 : 8RCRA   |  |                 |            | 11 | 12" (       | 12. | Depth Comp | Grah/ | 2                   | 6.0       | TIMMOOR     | Yes No                              |       | Due Date:            | Rush                       | 0                                | novena        | 00                                      | 1 | Company Name: | Bill to: (if different)           |

11/21/2022

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#### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3430 List Number: 1 Creator: Clifton, Cloe

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

Job Number: 890-3430-1 SDG Number: 03D2057025

List Source: Eurofins Midland

List Creation: 11/14/22 08:39 AM

#### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3430 List Number: 2 Creator: Rodriguez, Leticia

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

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

Received by OCD: 2/7/2023 10:16:33 AM

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## **Eurofins Carlsbad**

Job Notes

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

## Authorization

RAMER

Generated 11/21/2022 2:43:23 PM

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

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

Received by OCD: 2/7/2023 10:16:33 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 705 W. Wadley Suite 210 Midland Texas 79701 Generated 11/23/2022 12:08:06 PM

## JOB DESCRIPTION

SEMU Permian South Header SDG NUMBER 03D2057025

## **JOB NUMBER**

890-3474-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220



Laboratory Job ID: 890-3474-1

SDG: 03D2057025

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|                     | Definitions/Glossary  |                                       |   |
|---------------------|---|---------------------------------------|---|
| Client: Ensolur     |   | Job ID: 890-3474-1<br>SDG: 03D2057025 | 2 |
| Qualifiers          | EMU Permian South Header  | 300.0302037023                        |   |
|                     |   |                                       | 3 |
| GC VOA<br>Qualifier | Qualifier Description   |                                       |   |
| F1                  | MS and/or MSD recovery exceeds control limits.  |                                       |   |
| F2                  | MS/MSD RPD exceeds control limits   |                                       | E |
| S1-                 | Surrogate recovery exceeds control limits, low biased.  |                                       |   |
| U                   | Indicates the analyte was analyzed for but not detected.  |                                       |   |
| GC Semi VOA         |   |                                       |   |
| Qualifier           | Qualifier Description   |                                       |   |
| S1+                 | Surrogate recovery exceeds control limits, 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 |                                       |   |
|                     |   |                                       |   |

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

#### Job ID: 890-3474-1 SDG: 03D2057025

#### Job ID: 890-3474-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3474-1

#### Receipt

The sample was received on 11/15/2022 1:31 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: FS01 (890-3474-1).

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39696 and analytical batch 880-39930 was outside the upper control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-39722 and analytical batch 880-39930 was outside the upper control limits.

Method 8021B: The method blank for preparation batch 880-39696 and analytical batch 880-39930 contained m-Xylene & p-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-39722 and analytical batch 880-39930 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The method blank for preparation batch 880-39722 and analytical batch 880-39930 contained m-Xylene & p-Xylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

#### GC Semi VOA

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-40185/2-A) and (LCSD 880-40185/3-A). Evidence of matrix interferences is not obvious.

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

#### HPLC/IC

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

Project/Site: SEMU Permian South Header

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

Result Qualifier

<0.00199 U

<0.00199 U

RL

0.00199

0.00199

Unit

mg/Kg

mg/Kg

D

Prepared

11/16/22 14:31

11/16/22 14:31

Job ID: 890-3474-1 SDG: 03D2057025

### **Client Sample ID: FS01**

Date Collected: 11/09/22 11:05 Date Received: 11/15/22 13:31

Sample Depth: 1'

Analyte

Benzene

Toluene

Client: Ensolum

Lab Sample ID: 890-3474-1

Analyzed

11/20/22 03:23

11/20/22 03:23

Matrix: Solid

|  |                      |              |              | 5 5   |   |                                  |                                  |             |
|--|----------------------|--------------|--------------|-------|---|----------------------------------|----------------------------------|-------------|
| Ethylbenzene   | <0.00199             | U            | 0.00199      | mg/Kg |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| m-Xylene & p-Xylene  | <0.00398             | U            | 0.00398      | mg/Kg |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| o-Xylene   | <0.00199             | U            | 0.00199      | mg/Kg |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| Xylenes, Total   | <0.00398             | U            | 0.00398      | mg/Kg |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| Surrogate  | %Recovery            | Qualifier    | Limits       |       |   | Prepared                         | Analyzed                         | Dil Fac     |
| 4-Bromofluorobenzene (Surr)  |                      |              | 70 - 130     |       |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| 1,4-Difluorobenzene (Surr)   | 95                   |              | 70 - 130     |       |   | 11/16/22 14:31                   | 11/20/22 03:23                   | 1           |
| _<br>Method: TAL SOP Total BTEX - 1  | Total BTEX Cal       | ulation      |              |       |   |                                  |                                  |             |
| Analyte  |                      | Qualifier    | RL           | Unit  | D | Prepared                         | Analyzed                         | Dil Fac     |
| Total BTEX   | <0.00398             | U            | 0.00398      | mg/Kg |   |                                  | 11/21/22 18:12                   | 1           |
| _<br>Method: SW846 8015 NM - Diese   | el Range Organ       | ics (DRO) (( | GC)          |       |   |                                  |                                  |             |
| Analyte  | Result               | Qualifier    | RL           | Unit  | D | Prepared                         | Analyzed                         | Dil Fac     |
| Total TPH  | 81.1                 |              | 49.8         | mg/Kg |   |                                  | 11/23/22 12:17                   | 1           |
| -<br>Method: SW846 8015B NM - Dies   | sel Range Orga       | nics (DRO)   | (GC)         |       |   |                                  |                                  |             |
| Analyte  | Result               | Qualifier    | RL           | Unit  | D | Prepared                         | Analyzed                         | Dil Fac     |
|  |                      |              |              |       |   |                                  |                                  |             |
| Gasoline Range Organics<br>(GRO)-C6-C10  | <49.8                | U            | 49.8         | mg/Kg |   | 11/22/22 09:47                   | 11/22/22 17:59                   | 1           |
| 0 0  | <49.8<br><b>81.1</b> | U            | 49.8         | mg/Kg |   | 11/22/22 09:47<br>11/22/22 09:47 | 11/22/22 17:59<br>11/22/22 17:59 | 1           |
| (GRO)-C6-C10<br>Diesel Range Organics (Over  |                      |              |              |       |   |                                  |                                  | 1<br>1<br>1 |
| (GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)                                      | 81.1                 | U            | 49.8         | mg/Kg |   | 11/22/22 09:47                   | 11/22/22 17:59                   | 1           |
| (GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36) | <b>81.1</b> <49.8    | U            | 49.8<br>49.8 | mg/Kg |   | 11/22/22 09:47<br>11/22/22 09:47 | 11/22/22 17:59<br>11/22/22 17:59 | 1<br>1<br>  |

| Method: MCAWW 300.0 - Anions, | Ion Chromatography - Solu | uble |       |   |          |                |         |
|-------------------------------|---------------------------|------|-------|---|----------|----------------|---------|
| Analyte                       | Result Qualifier          | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Chloride                      | 180                       | 5.00 | mg/Kg |   |          | 11/22/22 04:29 | 1       |

Project/Site: SEMU Permian South Header

#### Job ID: 890-3474-1 SDG: 03D2057025

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

#### Matrix: Solid

Client: Ensolum

|                     |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |   |
|---------------------|------------------------|----------|----------|--|---|
|                     |                        | BFB1     | DFBZ1    |  | - |
| Lab Sample ID       | Client Sample ID       | (70-130) | (70-130) |  | 5 |
| 880-21638-A-1-A MS  | Matrix Spike           | 81       | 90       |  |   |
| 880-21638-A-1-B MSD | Matrix Spike Duplicate | 104      | 94       |  | 6 |
| 890-3474-1          | FS01                   | 117      | 95       |  |   |
| LCS 880-39722/1-A   | Lab Control Sample     | 113      | 92       |  |   |
| LCSD 880-39722/2-A  | Lab Control Sample Dup | 95       | 94       |  |   |
| MB 880-39696/5-A    | Method Blank           | 66 S1-   | 89       |  | 8 |
| MB 880-39722/5-A    | Method Blank           | 69 S1-   | 91       |  |   |
| Surrogate Legend    |                        |          |          |  | 9 |

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

#### Matrix: Solid

|             |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |
|-------------|------------------------|----------|----------|--|
|             |                        | 1CO1     | OTPH1    |  |
| Sample ID   | Client Sample ID       | (70-130) | (70-130) |  |
| <b>I-1</b>  | FS01                   | 70       | 79       |  |
| )-A-1-C MS  | Matrix Spike           | 96       | 101      |  |
| -A-1-D MSD  | Matrix Spike Duplicate | 113      | 118      |  |
| 40185/2-A   | Lab Control Sample     | 163 S1+  | 190 S1+  |  |
| 0-40185/3-A | Lab Control Sample Dup | 157 S1+  | 180 S1+  |  |
| 0-40185/1-A | Method Blank           | 108      | 126      |  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

Prep Type: Total/NA

Client: Ensolum Project/Site: SEMU Permian South Header

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

|                                     |         |      |           |          |         |           |         |     |       | Client Sa  | mple ID: N | lethod  | l Blank |
|-------------------------------------|---------|------|-----------|----------|---------|-----------|---------|-----|-------|------------|------------|---------|---------|
| Matrix: Solid                       |         |      |           |          |         |           |         |     |       |            | Prep T     | pe: To  | otal/NA |
| Analysis Batch: 39930               |         |      |           |          |         |           |         |     |       |            |            |         | 39696   |
|                                     |         | ΜВ   | МВ        |          |         |           |         |     |       |            |            |         |         |
| Analyte                             | Re      | sult | Qualifier | RL       |         | Unit      |         | D   | P     | repared    | Analyze    | d       | Dil Fac |
| Benzene                             | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | g       | _   | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| Toluene                             | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | g       |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| Ethylbenzene                        | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | g       |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| m-Xylene & p-Xylene                 | <0.00   | 400  | U         | 0.00400  | )       | mg/K      | g       |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| o-Xylene                            | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | g       |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| Xylenes, Total                      | <0.00   | 400  | U         | 0.00400  | )       | mg/K      | g       |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
|                                     |         |      |           |          |         |           |         |     |       |            |            |         |         |
|                                     |         |      | MB        |          |         |           |         |     | _     |            |            |         |         |
| Surrogate                           | %Recov  | -    | Qualifier | Limits   | -       |           |         |     |       | repared    | Analyze    |         | Dil Fac |
| 4-Bromofluorobenzene (Surr)         |         |      | S1-       | 70 - 130 |         |           |         |     |       | 6/22 10:35 | 11/19/22 0 |         | 1       |
| 1,4-Difluorobenzene (Surr)          |         | 89   |           | 70 - 130 |         |           |         |     | 11/1  | 6/22 10:35 | 11/19/22 0 | 6:32    | 1       |
| <br>Lab Sample ID: MB 880-39722/5-A |         |      |           |          |         |           |         |     |       | Client Sa  | mple ID: N | lethod  | l Blank |
| Matrix: Solid                       |         |      |           |          |         |           |         |     |       |            | Prep T     |         |         |
| Analysis Batch: 39930               |         |      |           |          |         |           |         |     |       |            |            |         | 39722   |
| Analysis Datch. 55550               |         | мв   | мв        |          |         |           |         |     |       |            | пер        | Daten   |         |
| Analyte                             | Re      |      | Qualifier | RL       | -       | Unit      |         | D   | P     | repared    | Analyze    | d       | Dil Fac |
| Benzene                             | <0.00   | 200  | U         | 0.00200  |         | mg/K      | g       | _   |       | 6/22 14:31 | 11/19/22 2 |         | 1       |
| Toluene                             | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | g       |     | 11/1  | 6/22 14:31 | 11/19/22 2 | 0:05    | 1       |
| Ethylbenzene                        | <0.00   | 200  | U         | 0.00200  | )       | mg/K      | -       |     | 11/1  | 6/22 14:31 | 11/19/22 2 | 0:05    | 1       |
| m-Xylene & p-Xylene                 | <0.00   | 400  | U         | 0.00400  | <br>)   | mg/K      |         |     | 11/1  | 6/22 14:31 | 11/19/22 2 | 0:05    |         |
| o-Xylene                            | <0.00   |      |           | 0.00200  |         | mg/K      | -       |     |       | 6/22 14:31 | 11/19/22 2 |         | 1       |
| Xylenes, Total                      | <0.00   |      |           | 0.00400  |         | mg/K      | -       |     |       | 6/22 14:31 | 11/19/22 2 |         | 1       |
|                                     |         |      |           |          |         | 0         | 0       |     |       |            |            |         |         |
|                                     |         | MВ   | MB        |          |         |           |         |     | _     |            |            |         |         |
| Surrogate                           | %Recov  | -    | Qualifier | Limits   |         |           |         |     |       | repared    | Analyze    |         | Dil Fac |
| 4-Bromofluorobenzene (Surr)         |         |      | S1-       | 70 - 130 |         |           |         |     |       | 6/22 14:31 | 11/19/22 2 |         | 1       |
| 1,4-Difluorobenzene (Surr)          |         | 91   |           | 70 - 130 |         |           |         |     | 11/1  | 6/22 14:31 | 11/19/22 2 | 0:05    | 1       |
|                                     |         |      |           |          |         |           |         | С   | lient | Sample     | ID: Lab Co | ntrol S | Sample  |
| Matrix: Solid                       |         |      |           |          |         |           |         | Ŭ   | lione | oumpio     | Prep T     |         |         |
| Analysis Batch: 39930               |         |      |           |          |         |           |         |     |       |            |            |         | 39722   |
| Analysis Baton socoo                |         |      |           | Spike    | LCS     | LCS       |         |     |       |            | %Rec       | Batom   |         |
| Analyte                             |         |      |           | Added    |         | Qualifier | Unit    |     | D     | %Rec       | Limits     |         |         |
| Benzene                             |         |      |           | 0.100    | 0.08735 |           | mg/Kg   |     | · -   | 87         | 70 - 130   |         |         |
| Toluene                             |         |      |           | 0.100    | 0.09484 |           | mg/Kg   |     |       | 95         | 70 - 130   |         |         |
| Ethylbenzene                        |         |      |           | 0.100    | 0.08020 |           | mg/Kg   |     |       | 80         | 70 - 130   |         |         |
| m-Xylene & p-Xylene                 |         |      |           | 0.200    | 0.1782  |           | mg/Kg   |     |       | 89         | 70 - 130   |         |         |
| o-Xylene                            |         |      |           | 0.100    | 0.08946 |           | mg/Kg   |     |       | 89         | 70 - 130   |         |         |
| e Xylone                            |         |      |           | 0.100    | 0.00010 |           | mg/rtg  |     |       | 00         | 10-100     |         |         |
|                                     | LCS     |      |           |          |         |           |         |     |       |            |            |         |         |
|                                     | ecovery | Qua  | lifier    | Limits   |         |           |         |     |       |            |            |         |         |
| 4-Bromofluorobenzene (Surr)         | 113     |      |           | 70 - 130 |         |           |         |     |       |            |            |         |         |
| 1,4-Difluorobenzene (Surr)          | 92      |      |           | 70 - 130 |         |           |         |     |       |            |            |         |         |
|                                     |         |      |           |          |         |           | 0.      | o 4 | C     |            | oh Control | Seren   | la Dura |
| Lab Sample ID: LCSD 880-39722/2-4   | •       |      |           |          |         |           | CII     | ent | Sam   | ipie iD: L | ab Control |         |         |
| Matrix: Solid                       |         |      |           |          |         |           |         |     |       |            | Prep T     |         |         |
| Analysis Batch: 39930               |         |      |           | Calif    | 1.000   | 1.000     |         |     |       |            |            | Batch   | 39722   |
| Analysia                            |         |      |           | Spike    |         | LCSD      | 1 lm !4 |     | ~     | 0/ D       | %Rec       | 000     | RPD     |
| Analyte                             |         |      |           | Added    | Result  | Qualifier |         |     | D     | %Rec       | Limits     | RPD     | Limit   |

Job ID: 890-3474-1 SDG: 03D2057025

> 5 7

Benzene

0.08926

mg/Kg

89

70 - 130

0.100

2

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35

Client: Ensolum Project/Site: SEMU Permian South Header Job ID: 890-3474-1 SDG: 03D2057025

**Client Sample ID: Matrix Spike** 

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

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

| Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 39930 | 9722/2-A  |           |          |         |           | Clie  | nt Sarr | ple ID: |          | l Sampl<br>ype: To<br>Batch: | tal/NA |
|---|-----------|-----------|----------|---------|-----------|-------|---------|---------|----------|------------------------------|--------|
|   |           |           | Spike    | LCSD    | LCSD      |       |         |         | %Rec     |                              | RPD    |
| Analyte   |           |           | Added    | Result  | Qualifier | Unit  | D       | %Rec    | Limits   | RPD                          | Limit  |
| Toluene   |           |           | 0.100    | 0.08918 |           | mg/Kg |         | 89      | 70 - 130 | 6                            | 35     |
| Ethylbenzene  |           |           | 0.100    | 0.08323 |           | mg/Kg |         | 83      | 70 - 130 | 4                            | 35     |
| m-Xylene & p-Xylene   |           |           | 0.200    | 0.1763  |           | mg/Kg |         | 88      | 70 - 130 | 1                            | 35     |
| o-Xylene  |           |           | 0.100    | 0.08097 |           | mg/Kg |         | 81      | 70 - 130 | 10                           | 35     |
|   | LCSD      | LCSD      |          |         |           |       |         |         |          |                              |        |
| Surrogate   | %Recovery | Qualifier | Limits   |         |           |       |         |         |          |                              |        |
| 4-Bromofluorobenzene (Surr)   | 95        |           | 70 - 130 |         |           |       |         |         |          |                              |        |
| 1,4-Difluorobenzene (Surr)  | 94        |           | 70 - 130 |         |           |       |         |         |          |                              |        |

#### Lab Sample ID: 880-21638-A-1-A MS Matrix: Solid

#### Analysis Batch: 39930

| Analysis Batch: 39930 |          |           |        |          |           |       |   |      | Prep B   | atch: 39722 |
|-----------------------|----------|-----------|--------|----------|-----------|-------|---|------|----------|-------------|
|                       | Sample   | Sample    | Spike  | MS       | MS        |       |   |      | %Rec     |             |
| Analyte               | Result   | Qualifier | Added  | Result   | Qualifier | Unit  | D | %Rec | Limits   |             |
| Benzene               | <0.00200 | U F1 F2   | 0.0996 | 0.009060 | F1        | mg/Kg |   | 9    | 70 - 130 |             |
| Toluene               | <0.00200 | U F1 F2   | 0.0996 | 0.006781 | F1        | mg/Kg |   | 7    | 70 - 130 |             |
| Ethylbenzene          | <0.00200 | U F1 F2   | 0.0996 | 0.009392 | F1        | mg/Kg |   | 9    | 70 - 130 |             |
| m-Xylene & p-Xylene   | <0.00401 | U F1 F2   | 0.199  | 0.02431  | F1        | mg/Kg |   | 11   | 70 - 130 |             |
| o-Xylene              | <0.00200 | U F1 F2   | 0.0996 | 0.01365  | F1        | mg/Kg |   | 14   | 70 - 130 |             |

|                             | MS        | MS        |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 81        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 90        |           | 70 - 130 |

#### Lab Sample ID: 880-21638-A-1-B MSD Matrix: Solid Analysis Batch: 39930

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

| Analysis Batch: 39930 |           |           |        |         |           |       |   |      | Prep     | Batch: | 39722 |
|-----------------------|-----------|-----------|--------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Sample    | Sample    | Spike  | MSD     | MSD       |       |   |      | %Rec     |        | RPD   |
| Analyte               | Result    | Qualifier | Added  | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | <0.00200  | U F1 F2   | 0.0996 | 0.06861 | F1 F2     | mg/Kg |   | 69   | 70 - 130 | 153    | 35    |
| Toluene               | <0.00200  | U F1 F2   | 0.0996 | 0.05867 | F1 F2     | mg/Kg |   | 59   | 70 - 130 | 159    | 35    |
| Ethylbenzene          | <0.00200  | U F1 F2   | 0.0996 | 0.05768 | F1 F2     | mg/Kg |   | 58   | 70 - 130 | 144    | 35    |
| m-Xylene & p-Xylene   | <0.00401  | U F1 F2   | 0.199  | 0.1185  | F1 F2     | mg/Kg |   | 59   | 70 - 130 | 132    | 35    |
| o-Xylene              | <0.00200  | U F1 F2   | 0.0996 | 0.06295 | F1 F2     | mg/Kg |   | 63   | 70 - 130 | 129    | 35    |
|                       | MSD       | MSD       |        |         |           |       |   |      |          |        |       |
| Surrogate             | %Recovery | Qualifier | Limits |         |           |       |   |      |          |        |       |

70 - 130

70 - 130

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

104

94

| Lab Sample ID: MB 880-40185/1-A<br>Matrix: Solid<br>Analysis Batch: 40170 | мв     | мв        |      |       |   | Client Sa      | mple ID: Metho<br>Prep Type: <sup>-</sup><br>Prep Batcl | Total/NA |
|---|--------|-----------|------|-------|---|----------------|---|----------|
| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed  | Dil Fac  |
| Gasoline Range Organics   | <50.0  | U         | 50.0 | mg/Kg |   | 11/22/22 08:09 | 11/22/22 08:21  | 1        |
| (GRO)-C6-C10  |        |           |      |       |   |                |   |          |

Prep Type: Total/NA

7

5

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Released to Imaging: 2/22/2023 1:43:58 PM

Lab Sample ID: MB 880-40185/1-A

Matrix: Solid

Analyte

C10-C28)

Surrogate

1-Chlorooctane o-Terphenyl

Matrix: Solid

Analyte

C10-C28)

Surrogate

1-Chlorooctane o-Terphenyl

Matrix: Solid

Analyte

C10-C28)

Analysis Batch: 40170

Gasoline Range Organics (GRO)-C6-C10

Diesel Range Organics (Over

Analysis Batch: 40170

Gasoline Range Organics (GRO)-C6-C10

Diesel Range Organics (Over

Analysis Batch: 40170

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

Lab Sample ID: LCS 880-40185/2-A

Lab Sample ID: LCSD 880-40185/3-A

#### **QC Sample Results**

Client: Ensolum Project/Site: SEMU Permian South Header

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

| k | Blank  | lethod   | ample ID: M            | <b>Client Sa</b>      |       |          |               |        |                   |           |       |          |
|---|--------|----------|------------------------|-----------------------|-------|----------|---------------|--------|-------------------|-----------|-------|----------|
|   |        |          | Prep Ty                |                       |       |          |               |        |                   |           |       |          |
| Ę | 40185  | Batch: 4 | Prep E                 |                       |       |          |               |        |                   |           |       |          |
|   |        |          | Analyza                | un a un a un a d      |       |          | 11            |        | ы                 | MB        |       | D        |
|   | Dil Fa |          | Analyzed               | repared<br>2/22 08:09 |       | <u>D</u> | Unit<br>mg/Kg |        | <b>RL</b><br>50.0 | Qualifier |       |          |
|   |        | 0.21     | 11/22/22 00            | 2/22 00.09            | 11/22 |          | ing/rtg       |        | 50.0              | 0         | <00.0 |          |
|   |        | 8:21     | 11/22/22 08            | 2/22 08:09            | 11/22 |          | mg/Kg         |        | 50.0              | U         | <50.0 | <        |
|   |        |          |                        |                       |       |          |               |        |                   | MB        | ΜВ    |          |
| 1 | Dil Fa | ed       | Analyzed               | repared               | Pi    |          |               |        | Limits            | Qualifier |       | %Reco    |
| 1 |        |          | 11/22/22 08            | 2/22 08:09            |       |          |               |        | 70 - 130          |           | 108   |          |
|   |        | 8:21     | 11/22/22 08            | 2/22 08:09            | 11/2  |          |               |        | 70 - 130          |           | 126   |          |
|   | l      | ntrol Co |                        | Complet               | llant |          |               |        |                   |           |       |          |
|   |        |          | ID: Lab Cor<br>Prep Ty | Sample                | nem   |          |               |        |                   |           |       |          |
|   |        | Batch: 4 |                        |                       |       |          |               |        |                   |           |       |          |
|   |        |          | %Rec                   |                       |       |          | LCS           | LCS    | Spike             |           |       |          |
|   |        |          | Limits                 | %Rec                  | D     | Unit     | Qualifier     | Result | Added             |           |       |          |
|   |        |          | 70 - 130               | 82                    | _     | mg/Kg    |               | 816.2  | 1000              |           |       |          |
|   |        |          | 70 - 130               | 99                    |       | mg/Kg    |               | 988.2  | 1000              |           |       |          |
|   |        |          | 10 - 100               |                       |       |          |               | 000.2  |                   |           |       |          |
|   |        |          |                        |                       |       |          |               |        |                   |           | LCS   | LCS      |
|   |        |          |                        |                       |       |          |               |        | Limits            | ifier     | Qual  | Recovery |
|   |        |          |                        |                       |       |          |               |        | 70 - 130          |           | S1+   | 163      |
|   |        |          |                        |                       |       |          |               |        | 70 - 130          |           | S1+   | 190      |
|   |        | Sample   | ab Control             |                       | Sam   | Client   |               |        |                   |           |       | A        |
| 1 |        |          | Prep Ty                |                       | oum   | onem     |               |        |                   |           |       | ^        |
|   |        | Batch: 4 |                        |                       |       |          |               |        |                   |           |       |          |
|   | RPI    |          | %Rec                   |                       |       |          | LCSD          | LCSD   | Spike             |           |       |          |
| ı | Limi   | RPD      | Limits                 | %Rec                  | D     | Unit     | Qualifier     | Result | Added             |           |       |          |
| 2 | 2      | 1        | 70 - 130               | 83                    | _     | mg/Kg    |               | 827.6  | 1000              |           |       |          |
|   | 20     | 7        | 70 - 130               | 93                    |       | mg/Kg    |               | 925.3  | 1000              |           |       |          |

|                | LCSD      | LUSD      |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 157       | S1+       | 70 - 130 |
| o-Terphenyl    | 180       | S1+       | 70 - 130 |

#### Lab Sample ID: 890-3499-A-1-C MS Matrix: Solid

| Analysis Batch: 40170                   |        |           |       |        |           |       |   |      | Prep     | Batch: | 40185 |
|---|--------|-----------|-------|--------|-----------|-------|---|------|----------|--------|-------|
|   | Sample | Sample    | Spike | MS     | MS        |       |   |      | %Rec     |        |       |
| Analyte                                 | Result | Qualifier | Added | Result | Qualifier | Unit  | D | %Rec | Limits   |        |       |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <49.9  | U         | 999   | 865.2  |           | mg/Kg |   | 84   | 70 - 130 |        |       |
| Diesel Range Organics (Over<br>C10-C28) | <49.9  | U         | 999   | 1010   |           | mg/Kg |   | 99   | 70 - 130 |        |       |

|                | MS        | MS        |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 96        |           | 70 _ 130 |
| o-Terphenyl    | 101       |           | 70 - 130 |

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**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

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Job ID: 890-3474-1 SDG: 03D2057025

Client: Ensolum Project/Site: SEMU Permian South Header Page 71 of 222

| Matrix: Solid   | -1-D MSD   |                     |  |   |   |                      | client S    | ample II   | D: Matrix S<br>Pren   | pike Dup<br>Type: To   |   |
|---|--|---------------------|--|---|---|----------------------|-------------|--|---|--|---|
|   |  |                     |  |   |   |                      |             |  |   | Batch:   |   |
| Analysis Batch: 40170   | Somolo   | Sampla              | Snika  | MeD   | MSD   |                      |             |  | %Rec  | Datch.   | RPD   |
| Analyta   | Sample   | Qualifier           | Spike<br>Added   |   | Qualifier   | Unit                 | D           | % Boo  | Limits  | RPD  | Limi  |
| Analyte<br>Gasoline Range Organics  |  | -                   | 999  |   | Quaimer   |                      |             | %Rec<br>101  | 70 - 130  | 17   | 2   |
| (GRO)-C6-C10  | <49.9  | 0                   | 999  | 1028  |   | mg/Kg                |             | 101  | 70 - 130  | 17   | 20  |
| Diesel Range Organics (Over   | <49.9  | U                   | 999  | 1191  |   | mg/Kg                |             | 117  | 70 - 130  | 16   | 2   |
| C10-C28)  |  |                     |  |   |   | 5. 5                 |             |  |   |  |   |
|   |  |                     |  |   |   |                      |             |  |   |  |   |
| 0   | MSD  |                     | 1  |   |   |                      |             |  |   |  |   |
| Surrogate<br>1-Chlorooctane   | %Recovery  | Qualifier           |  | -   |   |                      |             |  |   |  |   |
|   | 113  |                     |  |   |   |                      |             |  |   |  |   |
| o-Terphenyl   | 118  |                     | 70 - 130   |   |   |                      |             |  |   |  |   |
| lethod: 300.0 - Anions,   | Ion Chromat  | ography             |  |   |   |                      |             |  |   |  |   |
| Lab Sample ID: MB 880-398   | 331/1-A  |                     |  |   |   |                      |             | Client S   | Sample ID:  | Method   | Blan  |
| Matrix: Solid   |  |                     |  |   |   |                      |             |  | Prep  | Type: S  | olubl   |
| Analysis Batch: 40150   |  |                     |  |   |   |                      |             |  |   |  |   |
|   |  | MB MB               |  |   |   |                      |             |  |   |  |   |
| Analyte   | R  | esult Qualifie      | er   | RL  | Unit  |                      | D           | Prepared   | Analyz  | zed  | Dil Fa  |
| Chloride  | <  | 5.00 U              |  | 5.00  | mg/K  | g                    |             |  | 11/22/22  | 03:10  |   |
|   |  |                     |  |   |   |                      | <b>O</b> !! |  |   |  |   |
| Lab Sample ID: LCS 880-39   | 1831/2-A   |                     |  |   |   |                      | Clier       | it Sample  | e ID: Lab C   |  |   |
|   |  |                     |  |   |   |                      |             |  |   |  |   |
|   |  |                     |  |   |   |                      |             |  | Prep  | Type: S  | οιαρι   |
|   |  |                     | 0.11   | 1.00  |   |                      |             |  |   | Type: 5  | olubi   |
| Analysis Batch: 40150   |  |                     | Spike  |   | LCS   |                      | _           |  | %Rec  | Type: S  | οιαρι   |
| Analysis Batch: 40150<br>Analyte  |  |                     | Added  | Result  | LCS<br>Qualifier                                  | Unit                 | D           | %Rec   | %Rec<br>Limits  | Type: S  |   |
| Analysis Batch: 40150<br>Analyte  |  |                     |  |   |   | Unit<br>mg/Kg        | <u>D</u>    | %Rec<br>102  | %Rec  |  |   |
| Analysis Batch: 40150<br>Analyte<br>Chloride  | <br>39831/3-A  |                     | Added  | Result  |   | mg/Kg                |             | 102  | %Rec<br>Limits<br>90 - 110  |  |   |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3   | <br>39831/3-A  |                     | Added  | Result  |   | mg/Kg                |             | 102  | %Rec<br>Limits<br>90 - 110  |  | e Du  |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid  | 39831/3-A  |                     | Added  | Result  |   | mg/Kg                |             | 102  | %Rec<br>Limits<br>90 - 110  |  | e Du  |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid  | <br>39831/3-A  |                     | Added 250  | Result<br>255.5   | Qualifier   | mg/Kg                |             | 102  | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep  |  | e Du<br>olubi                                     |
| Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150  | 39831/3-A  |                     | Added<br>250<br>Spike  | Result<br>255.5<br>LCSD   | Qualifier   | mg/Kg                | ent Sa      | 102<br>mple ID:  | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec  | ol Sampl<br>Type: S  | le Duj<br>olubi<br>RPI                            |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte  | 39831/3-A  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>255.5<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Cli         |             | 102<br>mple ID:<br>%Rec  | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep  |  | le Duj<br>olubl<br>RPI<br>Lim                     |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte  | 39831/3-A  |                     | Added<br>250<br>Spike  | Result<br>255.5<br>LCSD   | Qualifier   | mg/Kg                | ent Sa      | 102<br>mple ID:  | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits  | ol Sampl<br>Type: So<br>RPD  | e Du<br>olubi<br>RP<br>Lim                        |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte  |  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>255.5<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Cli         | ent Sa      | 102<br>mple ID:<br>%Rec<br>103                                       | %Rec           Limits           90 - 110           Lab Contro           Prep           %Rec           Limits           90 - 110                           | DI Sampl<br>Type: So<br>   | le Du<br>olubi<br>RP<br>Lim<br>2                  |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-  |  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>255.5<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Cli         | ent Sa      | 102<br>mple ID:<br>%Rec<br>103                                       | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110  | DI Sampl<br>Type: So<br><u>RPD</u><br>1<br>2: Matrix                         | le Du<br>olubl<br>RP<br>Lim<br>2<br>Spik          |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid   |  |                     | Added<br>250<br>Spike<br>Added                                 | Result<br>255.5<br>LCSD<br>Result                                   | Qualifier   | mg/Kg<br>Cli         | ent Sa      | 102<br>mple ID:<br>%Rec<br>103                                       | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110  | DI Sampl<br>Type: So<br>   | le Duj<br>olubi<br>RPI<br>Lim<br>2<br>Spik        |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride  |  | Sample              | Added<br>250<br>Spike<br>Added                                 | Result<br>255.5<br>LCSD<br>Result<br>256.9                          | Qualifier   | mg/Kg<br>Cli         | ent Sa      | 102<br>mple ID:<br>%Rec<br>103                                       | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110  | DI Sampl<br>Type: So<br><u>RPD</u><br>1<br>2: Matrix                         | le Duj<br>olubi<br>Lim<br>2<br>Spike              |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid<br>Analysis Batch: 40150  | 1-C MS<br>Sample   | Sample<br>Qualifier | Added<br>250<br>Spike<br>Added<br>250                          | Result<br>255.5<br>LCSD<br>Result<br>256.9                          | Qualifier<br>LCSD<br>Qualifier                    | mg/Kg<br>Cli         | ent Sa      | 102<br>mple ID:<br>%Rec<br>103                                       | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep   | DI Sampl<br>Type: So<br><u>RPD</u><br>1<br>2: Matrix                         | le Duj<br>olubi<br>RPI<br>Lim<br>2<br>Spik        |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte   | 1-C MS<br>Sample   | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike                 | Result<br>255.5<br>LCSD<br>Result<br>256.9                          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client                      | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec   | DI Sampl<br>Type: So<br><u>RPD</u><br>1<br>2: Matrix                         | le Duj<br>olubi<br>Lim<br>2<br>Spike              |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte   | -1-C MS<br>Sample<br>Result                              | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>Unit<br>Unit | D           | 102<br>mple ID:<br>%Rec<br>103<br>Client                             | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits                                     | DI Sampl<br>Type: So<br><u>RPD</u><br>1<br>2: Matrix                         | le Duj<br>olubi<br>RPI<br>Lim<br>2<br>Spik        |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride                             | -1-C MS<br>Sample<br>Result<br>331                       | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client<br><u>%Rec</u><br>98 | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits                                     | ol Sampl<br>Type: So<br><u>RPD</u><br>1<br>9: Matrix<br>Type: So             | le Du<br>olubi<br>RP<br>Lim<br>2<br>Spik<br>olubi |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A | -1-C MS<br>Sample<br>Result<br>331                       | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client<br><u>%Rec</u><br>98 | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110                         | ol Sampl<br>Type: So<br><u>RPD</u><br>1<br>9: Matrix<br>Type: So             | le Du<br>olubi<br>RP<br>Lim<br>2<br>Spik<br>olubi |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A<br>Matrix: Solid<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A<br>Matrix: Solid         | -1-C MS<br>Sample<br>Result<br>331                       | -                   | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result          | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client<br><u>%Rec</u><br>98 | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110                         | ol Sampl<br>Type: So<br><u>RPD</u><br>1<br>9: Matrix<br>Type: So<br>pike Dup | le Du<br>olubi<br>RP<br>Lim<br>2<br>Spik<br>olubi |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A<br>Matrix: Solid<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A<br>Matrix: Solid         | -1-C MS<br>Sample<br>Result<br>331                       | Qualifier           | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added        | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result<br>576.6 | Qualifier<br>LCSD<br>Qualifier<br>MS              | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client<br><u>%Rec</u><br>98 | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110                         | ol Sampl<br>Type: So<br><u>RPD</u><br>1<br>9: Matrix<br>Type: So<br>pike Dup | le Duj<br>olubli<br>RPI<br>2<br>Spike<br>olubli   |
| Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: LCSD 880-3<br>Matrix: Solid<br>Analysis Batch: 40150<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3464-A-<br>Matrix: Solid   | -1-C MS<br>Sample<br>Result<br>331<br>-1-D MSD<br>Sample | Qualifier           | Added<br>250<br>Spike<br>Added<br>250<br>Spike<br>Added<br>251 | Result<br>255.5<br>LCSD<br>Result<br>256.9<br>MS<br>Result<br>576.6 | Qualifier<br>LCSD<br>Qualifier<br>MS<br>Qualifier | Unit<br>mg/Kg        | D           | 102<br>mple ID:<br><u>%Rec</u><br>103<br>Client<br><u>%Rec</u><br>98 | %Rec<br>Limits<br>90 - 110<br>Lab Contro<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>Sample ID<br>Prep<br>%Rec<br>Limits<br>90 - 110<br>C: Matrix Sp<br>Prep | ol Sampl<br>Type: So<br><u>RPD</u><br>1<br>9: Matrix<br>Type: So<br>pike Dup | le Duj<br>olubi<br>Lim<br>2<br>Spike<br>olubi     |

Eurofins Carlsbad

Released to Imaging: 2/22/2023 1:43:58 PM

Client: Ensolum Project/Site: SEMU Permian South Header Job ID: 890-3474-1 SDG: 03D2057025

#### **GC VOA**

#### Prep Batch: 39696

| ep Batch: 39696  |  |  |  |   |   |
|--|--|--|--|---|---|
| Lab Sample ID  | Client Sample ID   | Prep Type  | Matrix   | Method  | Prep Batch  |
| MB 880-39696/5-A   | Method Blank   | Total/NA   | Solid  | 5035  |   |
| rep Batch: 39722   |  |  |  |   |   |
| Lab Sample ID  | Client Sample ID   | Prep Type  | Matrix   | Method  | Prep Batch  |
| 890-3474-1   | FS01   | Total/NA   | Solid  | 5035  |   |
| MB 880-39722/5-A   | Method Blank   | Total/NA   | Solid  | 5035  |   |
| LCS 880-39722/1-A  | Lab Control Sample   | Total/NA   | Solid  | 5035  |   |
| LCSD 880-39722/2-A   | Lab Control Sample Dup   | Total/NA   | Solid  | 5035  |   |
| 880-21638-A-1-A MS   | Matrix Spike   | Total/NA   | Solid  | 5035  |   |
| 880-21638-A-1-B MSD  | Matrix Spike Duplicate   | Total/NA   | Solid  | 5035  |   |
|  |  |  |  |   |   |
| nalysis Batch: 39930   | Client Sample ID   | Ргер Туре  | Matrix   | Method  | Prep Batch  |
| nalysis Batch: 39930<br>Lab Sample ID  | Client Sample ID<br>FS01   | Prep Type<br>Total/NA  | Matrix<br>Solid                                    | Method<br>8021B   | Prep Batch<br>39722   |
| nalysis Batch: 39930<br>Lab Sample ID<br>890-3474-1  |  |  |  |   |   |
| <b>Lab Sample ID</b><br>890-3474-1<br>MB 880-39696/5-A   | FS01   | Total/NA   | Solid  | 8021B   | 39722   |
| <b>Lab Sample ID</b><br>890-3474-1<br>MB 880-39696/5-A<br>MB 880-39722/5-A   | FS01<br>Method Blank   | Total/NA<br>Total/NA   | Solid<br>Solid                                     | 8021B<br>8021B  | 39722<br>39696  |
| Lab Sample ID           890-3474-1           MB 880-39696/5-A           MB 880-39722/5-A           LCS 880-39722/1-A   | FS01<br>Method Blank<br>Method Blank   | Total/NA<br>Total/NA<br>Total/NA                                     | Solid<br>Solid<br>Solid                            | 8021B<br>8021B<br>8021B                                     | 39722<br>39696<br>39722                                     |
| Lab Sample ID           890-3474-1           MB 880-39696/5-A           MB 880-39722/5-A           LCS 880-39722/1-A           LCSD 880-39722/2-A           880-21638-A-1-A MS                               | FS01<br>Method Blank<br>Method Blank<br>Lab Control Sample   | Total/NA<br>Total/NA<br>Total/NA<br>Total/NA                         | Solid<br>Solid<br>Solid<br>Solid                   | 8021B<br>8021B<br>8021B<br>8021B                            | 39722<br>39696<br>39722<br>39722                            |
| Lab Sample ID           890-3474-1           MB 880-39696/5-A           MB 880-39722/5-A           LCS 880-39722/1-A           LCSD 880-39722/2-A  | FS01<br>Method Blank<br>Method Blank<br>Lab Control Sample<br>Lab Control Sample Dup                 | Total/NA<br>Total/NA<br>Total/NA<br>Total/NA<br>Total/NA             | Solid<br>Solid<br>Solid<br>Solid<br>Solid<br>Solid | 8021B<br>8021B<br>8021B<br>8021B<br>8021B<br>8021B          | 39722<br>39696<br>39722<br>39722<br>39722<br>39722          |
| Lab Sample ID           890-3474-1           MB 880-39696/5-A           MB 880-39722/5-A           LCS 880-39722/1-A           LCSD 880-39722/2-A           880-21638-A-1-A MS                               | FS01<br>Method Blank<br>Method Blank<br>Lab Control Sample<br>Lab Control Sample Dup<br>Matrix Spike | Total/NA<br>Total/NA<br>Total/NA<br>Total/NA<br>Total/NA<br>Total/NA | Solid<br>Solid<br>Solid<br>Solid<br>Solid<br>Solid | 8021B<br>8021B<br>8021B<br>8021B<br>8021B<br>8021B<br>8021B | 39722<br>39696<br>39722<br>39722<br>39722<br>39722<br>39722 |
| Lab Sample ID           890-3474-1           MB 880-39696/5-A           MB 880-39722/5-A           LCS 880-39722/1-A           LCSD 880-39722/2-A           880-21638-A-1-A MS           880-21638-A-1-B MSD | FS01<br>Method Blank<br>Method Blank<br>Lab Control Sample<br>Lab Control Sample Dup<br>Matrix Spike | Total/NA<br>Total/NA<br>Total/NA<br>Total/NA<br>Total/NA<br>Total/NA | Solid<br>Solid<br>Solid<br>Solid<br>Solid<br>Solid | 8021B<br>8021B<br>8021B<br>8021B<br>8021B<br>8021B<br>8021B | 39722<br>39696<br>39722<br>39722<br>39722<br>39722<br>39722 |

#### GC Semi VOA

#### Analysis Batch: 40170

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3474-1         | FS01                   | Total/NA  | Solid  | 8015B NM | 40185      |
| MB 880-40185/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 40185      |
| LCS 880-40185/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 40185      |
| LCSD 880-40185/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 40185      |
| 890-3499-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 40185      |
| 890-3499-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 40185      |

Prep Batch: 40185

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-3474-1         | FS01                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-40185/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-40185/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-40185/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3499-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3499-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3474-1    | FS01             | Total/NA  | Solid  | 8015 NM |            |
### **QC** Association Summary

Client: Ensolum Project/Site: SEMU Permian South Header

#### Job ID: 890-3474-1 SDG: 03D2057025

#### HPLC/IC

### Leach Batch: 39831

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|----------------------|------------------------|-----------|--------|----------|------------|
| 890-3474-1           | FS01                   | Soluble   | Solid  | DI Leach |            |
| MB 880-39831/1-A     | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-39831/2-A    | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-39831/3-A   | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3464-A-1-C MS    | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3464-A-1-D MSD   | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |
| nalysis Batch: 40150 |                        |           |        |          |            |
| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
| 890-3474-1           | FS01                   | Soluble   | Solid  | 300.0    | 39831      |
| MB 880-39831/1-A     | Method Blank           | Soluble   | Solid  | 300.0    | 39831      |
| LCS 880-39831/2-A    | Lab Control Sample     | Soluble   | Solid  | 300.0    | 39831      |
| LCSD 880-39831/3-A   | Lab Control Sample Dup | Soluble   | Solid  | 300.0    | 39831      |
| 890-3464-A-1-C MS    | Matrix Spike           | Soluble   | Solid  | 300.0    | 39831      |
| 890-3464-A-1-D MSD   | Matrix Spike Duplicate | Soluble   | Solid  | 300.0    | 39831      |
|                      |                        |           |        |          |            |
|                      |                        |           |        |          |            |
|                      |                        |           |        |          |            |
|                      |                        |           |        |          |            |
|                      |                        |           |        |          |            |

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3474-1         | FS01                   | Soluble   | Solid  | 300.0  | 39831      |
| MB 880-39831/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 39831      |
| LCS 880-39831/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 39831      |
| LCSD 880-39831/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 39831      |
| 890-3464-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 39831      |
| 890-3464-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 39831      |

#### Client Sample ID: FS01 Date Collected: 11/09/22 11:05

Date Received: 11/15/22 13:31

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 39722  | 11/16/22 14:31 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 39930  | 11/20/22 03:23 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40147  | 11/21/22 18:12 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40309  | 11/23/22 12:17 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.04 g | 10 mL  | 40185  | 11/22/22 09:47 | AM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40170  | 11/22/22 17:59 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5 g     | 50 mL  | 39831  | 11/17/22 14:43 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40150  | 11/22/22 04:29 | СН      | EET MID |

Laboratory References:

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

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Job ID: 890-3474-1 SDG: 03D2057025

## Lab Sample ID: 890-3474-1

Matrix: Solid

### Accreditation/Certification Summary

Page 75 of 222

|  |                             | Accreditation/C                      | ertification Summary                         |                               |    |
|--|-----------------------------|--------------------------------------|--|-------------------------------|----|
| Client: Ensolum<br>Project/Site: SEMU Pe | rmian South Heade           | r                                    | Job ID: 890-3474-1<br>SDG: 03D2057025        | 2                             |    |
| Laboratory: Eurofi                       |                             |                                      |  |                               |    |
|  | analytes for this laboratol | ry were covered under each acc       |  |                               |    |
| Authority                                |                             | Program                              | Identification Number                        | Expiration Date               |    |
| Texas                                    |                             | NELAP                                | T104704400-22-24                             | 06-30-23                      | 5  |
| The following analytes                   | are included in this repo   | rt, but the laboratory is not certif | ied by the governing authority. This list ma | ay include analytes for which | 5  |
| the agency does not of                   |                             |                                      |  |                               |    |
| Analysis Method                          | Prep Method                 | Matrix                               | Analyte                                      |                               |    |
| 8015 NM<br>Total BTEX                    |                             | Solid<br>Solid                       | Total TPH<br>Total BTEX                      |                               |    |
| IOTALDTEX                                |                             | Solid                                |  |                               |    |
|  |                             |                                      |  |                               | 8  |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               | 9  |
|  |                             |                                      |  |                               | 10 |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               | 13 |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               |    |
|  |                             |                                      |  |                               |    |

Eurofins Carlsbad

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Job ID: 890-3474-1 SDG: 03D2057025

| 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    |
|              | = TestAmerica Laboratories, Standard Operating Procedure                      |          |            |
| Laboratory R |   |          |            |
| EET MID :    | = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440 |          |            |
|              |   |          |            |
|              |   |          |            |
|              |   |          |            |
|              |   |          |            |
|              |   |          |            |
|              |   |          |            |
|              |   |          |            |

#### Protocol References:

#### Laboratory References:

### **Sample Summary**

Job ID: 890-3474-1 SDG: 03D2057025

Client: Ensolum Project/Site: SEMU Permian South Header

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |    |
|---------------|------------------|--------|----------------|----------------|-------|----|
| 890-3474-1    | FS01             | Solid  | 11/09/22 11:05 | 11/15/22 13:31 | 1'    | 4  |
|               |                  |        |                |                |       | 5  |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       | 8  |
|               |                  |        |                |                |       | 9  |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       | 12 |
|               |                  |        |                |                |       | 13 |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       |    |

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| σ ω | 8        | Relinguished by: (Signature) | Notice: Signature of this doc<br>of service. Eurofins Xenco w<br>of Eurofins Xenco. A minimu  | Total 200.7 / 6010<br>Circle Method(s) ar   |  | ) |   |        |     |  | FSUI     | Sample Identification | Total Containers:        | Sample Custody Seals: | Cooler Custody Seals: | Samples Received Intact: | SAMPLE RECEIPT | PO #:   | Sampler's Name:                | Project Location: | Project Number:            | Project Name:             | Phone:              | City, State ZIP:              | Address:          | Company Name:    | Project Manager:        | 5   | eurofins  |
|-----|----------|------------------------------|---|---|--|---|---|--------|-----|--|----------|-----------------------|--------------------------|-----------------------|-----------------------|--------------------------|----------------|---|--------------------------------|-------------------|----------------------------|---------------------------|---------------------|-------------------------------|-------------------|------------------|-------------------------|---|---|
|     |          | : (Signature)                | Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco. Its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of service. Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously nego | Total 200.7 / 6010 200.8 / 6020:<br>Circle Method(s) and Metal(s) to be analyzed  |  | X | 2 |        |     |  | S        | ification Matrix      |                          | Yes No N/A            | No                    | act: (res No             | Temp Blank:    |   | Conner Shore                   |                   | -                          | SEMU PERMIAN SOUTH HEADER | 433.557.8875        | Midland tx 79701              | iente id          | Ensurum LLC.     | Hadlie Green            |   |   |
|     | Anala    | Received by: (Signature)     | ples constitutes a valid p<br>mples and shall not assun<br>d to each project and a c  | 8RCRA<br>alyzed T   |  |   | 1 | 1.14.0 | £ ~ |  | 11 66 11 | Date<br>Sampled       | Corrected Temperature:   | Temperature Reading:  | Correction Factor:    | Thermometer ID:          | Ner W          | the   | TA                             | Du                |                            | Ĺ                         |                     | 01                            | St. suk 400       |                  |                         | Environment Testing<br>Xenco  |   |
|     | 2R       | Signature)                   | ourchase order fri<br>ne any responsib<br>charge of \$5 for e   | A 13PPM<br>TCLP / SPLF  |  | _ |   |        |     |  | 1105     | Time D<br>Sampled     | erature:                 | ading:                |                       | -                        | Wet Ice:       | e lab, if receive                               | TAT starts the day received by | Due Date:         | Routine                    | Turn Around               | Email:              | Ci                            | Ad                | Co               | Bil                     | D<br>D  |   |
|     | but 1    |                              | om client company to<br>ility for any losses or o<br>ach sample submitte  | Texas 11 Al<br>6010 : 8RCR  |  |   |   |        |     |  | 1 C      | Depth Grab/ t         | 8                        | 10                    | 1.1                   | 7-00-                    | Re No          | d by 4:30pm                                     | received by                    |                   | Rush                       |                           | haven @ eusolum.com | City, State ZIP:              | Address:          | Company Name:    | Bill to: (if different) | Midland, T<br>EL Paso,<br>Hobbs, N  | Houstor   |
|     | ulustaal | Date/Time                    | › Eurofins Xenco, its affiliat<br>expenses incurred by the c<br>d to Eurofins Xenco, but n  | Al Sb As Ba Be B<br>CRA Sb As Ba Be (   |  |   |   |        |     |  | × × ×    | Cont Chi<br>Bhe       |                          | čle                   |                       | aran                     | neters         | S   |                                |                   | Code                       | -                         | Solum com           | midland TX,                   | 401 N Manenkeld   | ENSOINM LLC      | kales Tex               | X (432) 704-5440, San ,<br>X (915) 585-3443, Lub<br>IM (575) 392-7550, Cari   | 1, TX (281) 240-4200, D                               |
| 6 🔺 | 1331     | Relinquishe                  | tes and subcontractors. It as<br>client if such losses are due t<br>ot analyzed. These terms wi   | A 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo N<br>TCLP/SPLP6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U |  |   |   |        |     |  | ×        | 97                    | H                        | a                     |                       |                          |                |   |                                |                   |                            | A                         |                     | 10464 XI                      | nenkeld St. Switc | , c              | Tennings                | Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334<br>EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296<br>Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 | Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 |
|     |          | Relinquished by: (Signature) | ssigns standard terms an<br>to circumstances beyond<br>ill be enforced unless pre   | u Fe Pb Mg M<br>Mn Mo Ni Se /   |  |   |   |        |     |  |          |                       | _                        | 890-3474 Offantio     |                       |                          |                |   |                                |                   |                            | ANALYSIS REQUEST          |                     |                               | 400               |                  |                         |   |   |
|     |          |                              | lard terms and conditions<br>ances beyond the control<br>red unless previously negotlated.  | Mn Mo Ni K Se<br>e Ag Tl U  |  |   |   |        |     |  |          |                       |                          |                       | Chain of Custody      |                          |                |   | _                              |                   |                            |                           | Deliverables: El    | Reporting: Level II Level III | State of Project: | Program: UST/P   |                         | 5   |   |
|     |          | Received by: (Signature)     |   | Ag SiO <sub>2</sub> Na Sr<br>Hg: 1631 / 245.1 /   |  |   |   |        |     |  |          |                       |                          |                       | -                     |                          |                |   |                                |                   |                            |                           |                     |                               | ו                 |                  | Work Order Comments     | Work Order No:<br>www.xenco.com   |   |
|     |          |                              |   | Sr TI Sn U V Zn<br>.1 / 7470 / 7471   |  |   |   |        |     |  |          | Sample                | NaUH+Ascorbic Acid: SAPC | Zn Acetate+NaOH: Zn   | Na 2S 2O3: NaSO 3     | NaHSO 4: NABIS           | H₃PO ₄: HP     | H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> | HCL: HC                        | Cool: Cool        | None: NO                   | Preserv                   | ADaPT Other:        |                               | ]                 | Brownfields 🗌 RF | Comments                | n Page  |   |
|     |          | Date/Time                    |   | 1<br>1  |  |   |   |        |     |  |          | Sample Comments       | DIC ACID: SAPC           | IAUH: 2n              | 50 3<br>3             | SIS                      |                | NaOH: Na  | HNO 3: HN                      | MeOH: Me          | DI Water: H <sub>2</sub> O | Preservative Codes        | ner:                |                               |                   | RRC Superfund    |                         | 0f  |   |

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### Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 3474 List Number: 1 Creator: Stutzman, Amanda

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

Job Number: 890-3474-1 SDG Number: 03D2057025

List Source: Eurofins Carlsbad

Job Number: 890-3474-1 SDG Number: 03D2057025

List Source: Eurofins Midland

List Creation: 11/17/22 02:07 PM

### Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 3474 List Number: 2 Creator: Rodriguez, Leticia

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

Received by OCD: 2/7/2023 10:16:33 AM

## **Eurofins Carlsbad**

Job Notes

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

## Authorization

RAMER

Generated 11/23/2022 12:08:06 PM

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

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**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/1/2022 12:58:40 PM

## **JOB DESCRIPTION**

SEMU PERMIAN SOUTH HEADER SDG NUMBER 03D2057025

## **JOB NUMBER**

890-3502-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information



Received by OCD: 2/7/2023 10:16:33 AM

## **Eurofins Carlsbad**

Job Notes

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

## Authorization

RAMER

Generated 12/1/2022 12:58:40 PM

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

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|                        |    |

|                                    | Definitions/Glossary  | 1    |
|------------------------------------|---|------|
| Client: Ensolur<br>Project/Site: S | m Job ID: 890-3502<br>EMU PERMIAN SOUTH HEADER SDG: 03D20570  |      |
| Qualifiers                         |   | _ 3  |
| GC VOA                             |   |      |
| Qualifier                          | Qualifier Description   |      |
| F1                                 | MS and/or MSD recovery exceeds control limits.  |      |
| U                                  | Indicates the analyte was analyzed for but not detected.  | 5    |
| GC Semi VOA                        | 4   |      |
| Qualifier                          | Qualifier Description   |      |
| S1+                                | Surrogate recovery exceeds control limits, high biased.   | _    |
| U                                  | Indicates the analyte was analyzed for but not detected.  |      |
| HPLC/IC                            |   |      |
| Qualifier                          | Qualifier Description   | 8    |
| U                                  | Indicates the analyte was analyzed for but not detected.  |      |
| Glossary                           |   | - 9  |
| Abbreviation                       | These commonly used abbreviations may or may not be present in this report.                                 | 10   |
| ¤                                  | Listed under the "D" column to designate that the result is reported on a dry weight basis                  | - 10 |
| %R                                 | Percent Recovery  |      |
| CFL                                | Contains Free Liquid  |      |
| CFU                                | Colony Forming Unit   |      |
| CNF                                | Contains No Free Liquid   |      |
| DER                                | Duplicate Error Ratio (normalized absolute difference)  | 10   |
| 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 |      |
|                                    |   |      |

| 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   |

.

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3502-1 SDG: 03D2057025

#### Job ID: 890-3502-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3502-1

#### Receipt

The samples were received on 11/17/2022 2:53 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 1.8°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS08 (890-3502-1) and FS09 (890-3502-2).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40433 and analytical batch 880-40656 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: The surrogate recovery for the blank associated with preparation batch 880-40210 and analytical batch 880-40168 was outside the upper control limits.

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

#### HPLC/IC

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

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### **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

### **Client Sample ID: FS08**

Date Collected: 11/17/22 12:40 Date Received: 11/17/22 14:53

Sample Depth: 1

o-Xylene

| Method: SW846 8021B - Vol | latile Organic Comp | ounds (GC) |         |       |
|---------------------------|---------------------|------------|---------|-------|
| Analyte                   | Result              | Qualifier  | RL      | Unit  |
| Benzene                   | < 0.00199           | U          | 0.00199 | mg/Kg |
| Toluene                   | <0.00199            | U          | 0.00199 | mg/Kg |
| Ethylbenzene              | <0.00199            | U          | 0.00199 | mg/Kg |
| m-Xylene & p-Xylene       | <0.00398            | U          | 0.00398 | mg/Kg |

| Xylenes, Total              | <0.00398  | U         | 0.00398  | mg/Kg |
|-----------------------------|-----------|-----------|----------|-------|
| Surrogate                   | %Recovery | Qualifier | Limits   |       |
| 4-Bromofluorobenzene (Surr) | 97        |           | 70 - 130 |       |
| 1,4-Difluorobenzene (Surr)  | 104       |           | 70 - 130 |       |

<0.00199 U

| Method: TAL SOP Total BTEX - Tot | tal BTEX Calo | culation  |         |       |   |          |                |         |
|----------------------------------|---------------|-----------|---------|-------|---|----------|----------------|---------|
| Analyte                          | Result        | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Total BTEX                       | <0.00398      | U         | 0.00398 | mg/Kg |   |          | 12/01/22 12:55 | 1       |

0.00199

| Method: SW846 8015 NM - Die | esel Range Organics (DRO) (GC) |    |      |  |
|-----------------------------|--------------------------------|----|------|--|
| Analyte                     | Result Qualifier               | RL | Unit |  |

| Analyte   | Result Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|------------------|------|-------|---|----------|----------------|---------|
| Total TPH | 243              | 49.9 | mg/Kg |   |          | 11/23/22 11:46 | 1       |

| Method: SW846 8015B NM | - Diesel Range Organics (DRO) (GC) |
|------------------------|------------------------------------|
| Analuta                | Beault Qualifier                   |

| Analy                           | yte  | Result                           | Qualifier | RL                                | Unit  | D | Prepared  | Analyzed                                     | Dil Fac |
|---------------------------------|--|----------------------------------|-----------|-----------------------------------|-------|---|---|--|---------|
| Gaso                            | oline Range Organics                           | <49.9                            | U         | 49.9                              | mg/Kg |   | 11/22/22 11:24                                      | 11/23/22 04:36                               | 1       |
| (GRC                            | D)-C6-C10                                      |                                  |           |                                   |       |   |   |  |         |
| Dies                            | el Range Organics (Over                        | 243                              |           | 49.9                              | mg/Kg |   | 11/22/22 11:24                                      | 11/23/22 04:36                               | 1       |
| C10-                            | -C28)  |                                  |           |                                   |       |   |   |  |         |
| OII R                           | Range Organics (Over C28-C36)                  | <49.9                            | U         | 49.9                              | mg/Kg |   | 11/22/22 11:24                                      | 11/23/22 04:36                               | 1       |
|                                 |  |                                  |           |                                   |       |   |   |  |         |
| Surre                           | ogate  | %Recovery                        | Qualifier | Limits                            |       |   | Prepared  | Analyzed                                     | Dil Fac |
| 1-Ch                            | lorooctane                                     | 101                              |           | 70 - 130                          |       |   | 11/22/22 11:24                                      | 11/23/22 04:36                               | 1       |
| o-Ter                           | rphenyl  | 91                               |           | 70 - 130                          |       |   | 11/22/22 11:24                                      | 11/23/22 04:36                               | 1       |
| C10-<br>OII R<br>Surro<br>1-Chi | C28)<br>Range Organics (Over C28-C36)<br>ogate | <49.9<br><b>%Recovery</b><br>101 |           | 49.9<br><u>Limits</u><br>70 - 130 |       |   | 11/22/22 11:24<br><b>Prepared</b><br>11/22/22 11:24 | 11/23/22 04:36<br>Analyzed<br>11/23/22 04:36 | Dil Fa  |

| Method: MCAWW 300.0 - Anions, I | on Chromatography - So | luble |       |   |          |                |         |
|---------------------------------|------------------------|-------|-------|---|----------|----------------|---------|
| Analyte                         | Result Qualifier       | RL    | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Chloride                        | 185                    | 5.03  | mg/Kg |   |          | 11/23/22 12:30 | 1       |

#### **Client Sample ID: FS09** Date Collected: 11/17/22 12:45 Date Received: 11/17/22 14:53

Sample Depth: 1

| Method: SW846 8021B - Volat | ile Organic Comp | ounds (GC | )        |       |   |                |                |         |
|-----------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| Toluene                     | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| Ethylbenzene                | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| m-Xylene & p-Xylene         | <0.00402         | U         | 0.00402  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| o-Xylene                    | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| Xylenes, Total              | <0.00402         | U         | 0.00402  | mg/Kg |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| Surrogate                   | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 97               |           | 70 - 130 |       |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |

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Job ID: 890-3502-1 SDG: 03D2057025

## Lab Sample ID: 890-3502-1

Analyzed

12/01/22 04:54

12/01/22 04:54

12/01/22 04:54

12/01/22 04:54

12/01/22 04:54

12/01/22 04:54

Analyzed

12/01/22 04:54

12/01/22 04:54

Lab Sample ID: 890-3502-2

Matrix: Solid

D

mg/Kg

. . .

Prepared

11/30/22 10:40

11/30/22 10:40

11/30/22 10:40

11/30/22 10:40

11/30/22 10:40

11/30/22 10:40

Prepared

11/30/22 10:40

11/30/22 10:40

Matrix: Solid

Dil Fac

1

1

1

1

1

1

1

Dil Fac

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3502-1 SDG: 03D2057025

Matrix: Solid

5

Lab Sample ID: 890-3502-2

### Client Sample ID: FS09

Date Collected: 11/17/22 12:45 Date Received: 11/17/22 14:53

Sample Depth: 1

Client: Ensolum

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

| Surrogate                         | %Recovery      | Qualifier    | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|----------------|--------------|----------|-------|---|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr)        | 106            |              | 70 - 130 |       |   | 11/30/22 10:40 | 12/01/22 05:14 | 1       |
| Method: TAL SOP Total BTEX - To   | otal BTEX Calo | culation     |          |       |   |                |                |         |
| Analyte                           | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                        | <0.00402       | U            | 0.00402  | mg/Kg |   |                | 12/01/22 12:55 | 1       |
| Method: SW846 8015 NM - Diese     | Range Organ    | ics (DRO) (  | GC)      |       |   |                |                |         |
| Analyte                           | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total TPH                         | 261            |              | 49.8     | mg/Kg |   |                | 11/23/22 11:46 | 1       |
| Method: SW846 8015B NM - Dies     | ol Pango Orga  |              |          |       |   |                |                |         |
| Analyte                           |                | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Gasoline Range Organics           | <49.8          | U            | 49.8     | mg/Kg |   | 11/22/22 11:24 | 11/23/22 04:58 | 1       |
| (GRO)-C6-C10                      |                |              |          | 0.0   |   |                |                |         |
| Diesel Range Organics (Over       | 261            |              | 49.8     | mg/Kg |   | 11/22/22 11:24 | 11/23/22 04:58 | 1       |
| C10-C28)                          |                |              |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <49.8          | U            | 49.8     | mg/Kg |   | 11/22/22 11:24 | 11/23/22 04:58 | 1       |
| Surrogate                         | %Recovery      | Qualifier    | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 96             |              | 70 - 130 |       |   | 11/22/22 11:24 | 11/23/22 04:58 | 1       |
| o-Terphenyl                       | 91             |              | 70 - 130 |       |   | 11/22/22 11:24 | 11/23/22 04:58 | 1       |
| Method: MCAWW 300.0 - Anions      | Ion Chromato   | ography - So | oluble   |       |   |                |                |         |
| Analyte                           |                | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Chloride                          | 24.4           |              | 5.02     | mg/Kg |   |                | 11/23/22 12:55 | 1       |

### **Surrogate Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

|                    |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |
|--------------------|------------------------|----------|----------|--|
|                    |                        | BFB1     | DFBZ1    |  |
| _ab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |
| 890-3498-A-1-E MS  | Matrix Spike           | 94       | 106      |  |
| 890-3498-A-1-F MSD | Matrix Spike Duplicate | 95       | 118      |  |
| 890-3502-1         | FS08                   | 97       | 104      |  |
| 890-3502-2         | FS09                   | 97       | 106      |  |
| LCS 880-40433/1-A  | Lab Control Sample     | 90       | 120      |  |
| LCSD 880-40433/2-A | Lab Control Sample Dup | 89       | 119      |  |
| MB 880-40433/5-A   | Method Blank           | 81       | 104      |  |
| MB 880-40588/5-A   | Method Blank           | 84       | 101      |  |

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

#### Matrix: Solid

|                    |                        | 1CO1     | OTPH1    |
|--------------------|------------------------|----------|----------|
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |
| 820-6564-A-1-E MS  | Matrix Spike           | 99       | 95       |
| 820-6564-A-1-F MSD | Matrix Spike Duplicate | 117      | 97       |
| 890-3502-1         | FS08                   | 101      | 91       |
| 890-3502-2         | FS09                   | 96       | 91       |
| LCS 880-40210/2-A  | Lab Control Sample     | 104      | 103      |
| LCSD 880-40210/3-A | Lab Control Sample Dup | 115      | 102      |
| MB 880-40210/1-A   | Method Blank           | 135 S1+  | 135 S1+  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 890-3502-1 SDG: 03D2057025

Prep Type: Total/NA

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Lab Sample ID: MB 880-40433/5-A

### **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Matrix: Solid               |           |           |          |       | Prep Type: Total/NA |                |                |          |
|-----------------------------|-----------|-----------|----------|-------|---------------------|----------------|----------------|----------|
| Analysis Batch: 40656       |           |           |          |       |                     |                | Prep Batch     | n: 40433 |
|                             | MB        | MB        |          |       |                     |                |                |          |
| Analyte                     | Result    | Qualifier | RL       | Unit  | D                   | Prepared       | Analyzed       | Dil Fac  |
| Benzene                     | < 0.00200 | U         | 0.00200  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
|                             | MB        | МВ        |          |       |                     |                |                |          |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |                     | Prepared       | Analyzed       | Dil Fac  |
| 4-Bromofluorobenzene (Surr) | 81        |           | 70 - 130 |       |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |
| 1,4-Difluorobenzene (Surr)  | 104       |           | 70 - 130 |       |                     | 11/30/22 10:40 | 11/30/22 22:24 | 1        |

#### Lab Sample ID: LCS 880-40433/1-A Matrix: Solid

#### Analysis Batch: 40656

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.1239  |           | mg/Kg |   | 124  | 70 - 130 |  |
| Toluene             | 0.100 | 0.1011  |           | mg/Kg |   | 101  | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.09288 |           | mg/Kg |   | 93   | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.1867  |           | mg/Kg |   | 93   | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.1047  |           | mg/Kg |   | 105  | 70 - 130 |  |

|                             | LCS       | LCS       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 90        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 120       |           | 70 - 130 |

#### Lab Sample ID: LCSD 880-40433/2-A

### Matrix: Solid

| Analysis Batch: 40656 |       |         |           |       |   |      | Prep     | Batch: | 40433 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.1176  |           | mg/Kg |   | 118  | 70 - 130 | 5      | 35    |
| Toluene               | 0.100 | 0.09672 |           | mg/Kg |   | 97   | 70 - 130 | 4      | 35    |
| Ethylbenzene          | 0.100 | 0.08809 |           | mg/Kg |   | 88   | 70 - 130 | 5      | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1760  |           | mg/Kg |   | 88   | 70 - 130 | 6      | 35    |
| o-Xylene              | 0.100 | 0.09085 |           | mg/Kg |   | 91   | 70 - 130 | 14     | 35    |
|                       |       |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 89        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 119       |           | 70 - 130 |

### Lab Sample ID: 890-3498-A-1-E MS

#### Matrix: Solid Analysis Potoby 40656

| Analysis Batch: 40656 |          |           |       |         |           |       |   |      | Prep     | Batch: 40433 |
|-----------------------|----------|-----------|-------|---------|-----------|-------|---|------|----------|--------------|
|                       | Sample   | Sample    | Spike | MS      | MS        |       |   |      | %Rec     |              |
| Analyte               | Result   | Qualifier | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |              |
| Benzene               | <0.00201 | U         | 0.100 | 0.08066 |           | mg/Kg |   | 80   | 70 - 130 |              |
| Toluene               | <0.00201 | U F1      | 0.100 | 0.06152 | F1        | mg/Kg |   | 61   | 70 - 130 |              |

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

### **Client Sample ID: Lab Control Sample**

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 40433

Lab Sample ID: 890-3498-A-1-E MS

Matrix: Solid

Analyte

o-Xylene

Surrogate

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 40656

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

### QC Sample Results

MS MS

0.05273 F1

0.1002 F1

0.05466 F1

**Result Qualifier** 

Unit

mg/Kg

mg/Kg

mg/Kg

Spike

Added

0.100

0.201

0.100

Limits

70 - 130

70 - 130

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

Sample Sample

<0.00201 UF1

<0.00402 UF1

<0.00201 UF1

94

106

%Recovery

MS MS

Qualifier

**Result Qualifier** 

Prep Type: Total/NA

Prep Batch: 40433

**Client Sample ID: Matrix Spike** 

%Rec

Limits

70 - 130

70 - 130

70 - 130

%Rec

53

50

54

D

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| Client Sample ID: Matrix Spike Duplicate |
|--|
| Prep Type: Total/NA                      |

Matrix: Solid Analysis Batch: 40656

Lab Sample ID: 890-3498-A-1-F MSD

| Analysis Batch: 40656 |          |           |        |         |           |       |   |      | Prep Batch: 4 |     | 40433 |   |
|-----------------------|----------|-----------|--------|---------|-----------|-------|---|------|---------------|-----|-------|---|
|                       | Sample   | Sample    | Spike  | MSD     | MSD       |       |   |      | %Rec          |     | RPD   |   |
| Analyte               | Result   | Qualifier | Added  | Result  | Qualifier | Unit  | D | %Rec | Limits        | RPD | Limit |   |
| Benzene               | <0.00201 | U         | 0.0990 | 0.08386 |           | mg/Kg |   | 85   | 70 - 130      | 4   | 35    |   |
| Toluene               | <0.00201 | U F1      | 0.0990 | 0.05786 | F1        | mg/Kg |   | 58   | 70 - 130      | 6   | 35    | ï |
| Ethylbenzene          | <0.00201 | U F1      | 0.0990 | 0.04782 | F1        | mg/Kg |   | 48   | 70 - 130      | 10  | 35    |   |
| m-Xylene & p-Xylene   | <0.00402 | U F1      | 0.198  | 0.09262 | F1        | mg/Kg |   | 47   | 70 - 130      | 8   | 35    | ŝ |
| o-Xylene              | <0.00201 | U F1      | 0.0990 | 0.05007 | F1        | mg/Kg |   | 51   | 70 - 130      | 9   | 35    |   |
|                       |          |           |        |         |           |       |   |      |               |     |       |   |

|                             | MSD       | MSD       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 95        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 118       |           | 70 - 130 |

#### Lab Sample ID: MB 880-40588/5-A Matrix: Solid Analysis Batch: 40656

#### Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 40588

|                             | MB        | мв        |          |       |   |                |                |         |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
|                             | МВ        | МВ        |          |       |   |                |                |         |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 84        |           | 70 - 130 |       |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |
| 1,4-Difluorobenzene (Surr)  | 101       |           | 70 - 130 |       |   | 11/29/22 10:58 | 11/30/22 11:46 | 1       |

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

| Lab Sample ID: MB 880-40210/1-A<br>Matrix: Solid<br>Analysis Batch: 40168 |        |           |      |       |   | Client Sa      | ample ID: Method Blank<br>Prep Type: Total/NA<br>Prep Batch: 40210 |         |  |
|---|--------|-----------|------|-------|---|----------------|--|---------|--|
|   | MB     | MB        |      |       |   |                |  |         |  |
| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed   | Dil Fac |  |
| Gasoline Range Organics   | <50.0  | U         | 50.0 | mg/Kg |   | 11/22/22 11:24 | 11/22/22 19:48   | 1       |  |
| (GRO)-C6-C10  |        |           |      |       |   |                |  |         |  |

Diesel Range Organics (Over

C10-C28)

### **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| elliou: 6015B NW - Diesei Ra                      | nge Orga         |             |                      | onunue | eu)       |         |         |                         |                     |                    |         |
|---|------------------|-------------|----------------------|--------|-----------|---------|---------|-------------------------|---------------------|--------------------|---------|
| _ab Sample ID: MB 880-40210/1-A                   |                  |             |                      |        |           |         |         | Client S                | ample ID:           | Method             | Blank   |
| Matrix: Solid                                     |                  |             |                      |        |           |         |         |                         | Prep 1              | Туре: То           | otal/NA |
| Analysis Batch: 40168                             |                  |             |                      |        |           |         |         |                         | Prep                | Batch:             | 40210   |
|   | MB               | B MB        |                      |        |           |         |         |                         |                     |                    |         |
| Analyte   | Resulf           | t Qualifier | R                    | 8L     | Unit      |         | DF      | Prepared                | Analyz              | zed                | Dil Fac |
| Diesel Range Organics (Over                       | <50.0            | U U         | 50.                  | .0     | mg/K      | g       |         | 22/22 11:24             | 11/22/22            | 19:48              | 1       |
| C10-C28)  |                  |             |                      |        |           |         |         |                         |                     |                    |         |
| Oll Range Organics (Over C28-C36)                 | <50.0            | ) U         | 50.                  | .0     | mg/K      | g       | 11/:    | 22/22 11:24             | 11/22/22            | 19:48              | 1       |
|   |                  |             |                      |        |           |         |         |                         |                     |                    |         |
|   | MB               |             | 1                    |        |           |         |         | <b>D</b>                | <b>A</b>            |                    | D# 5    |
| Gurrogate   | %Recovery<br>135 |             | Limits<br>70 - 130   | _      |           |         |         | Prepared<br>22/22 11:24 | _ <u>Analyz</u><br> |                    | Dil Fac |
|   |                  | 5 S1+       | 70 - 130             |        |           |         |         | 22/22 11:24             |                     |                    | 1       |
| p-Terphenyl                                       | 135              | ) 3/+       | 70 - 130             |        |           |         | 117.    | 22/22 11.24             | 11/22/22            | 19.40              | 1       |
| Lab Sample ID: LCS 880-40210/2-A                  |                  |             |                      |        |           |         | Clien   | t Sample                | ID: Lab Co          | ontrol S           | ample   |
| Matrix: Solid                                     |                  |             |                      |        |           |         | onon    | t oumpio                |                     | Type: To           |         |
| Analysis Batch: 40168                             |                  |             |                      |        |           |         |         |                         |                     | Batch:             |         |
| Analysis Baten. 40100                             |                  |             | Spike                | LCS    | LCS       |         |         |                         | %Rec                | Baten.             | 40210   |
| Analyte   |                  |             | Added                |        | Qualifier | Unit    | D       | %Rec                    | Limits              |                    |         |
| Basoline Range Organics                           |                  |             | 1000                 | 994.7  | quanner   | mg/Kg   |         | 99                      | 70 - 130            |                    |         |
| GRO)-C6-C10                                       |                  |             | 1000                 | 554.1  |           | ing/itg |         | 55                      | 10 - 100            |                    |         |
| Diesel Range Organics (Over                       |                  |             | 1000                 | 955.7  |           | mg/Kg   |         | 96                      | 70 - 130            |                    |         |
| C10-C28)  |                  |             |                      |        |           | 0 0     |         |                         |                     |                    |         |
|   | LCS LCS          | e.          |                      |        |           |         |         |                         |                     |                    |         |
| Dumma un 41                                       |                  |             | 1                    |        |           |         |         |                         |                     |                    |         |
|   |                  | alifier     | Limits               |        |           |         |         |                         |                     |                    |         |
| 1-Chlorooctane                                    | 104              |             | 70 - 130<br>70 - 120 |        |           |         |         |                         |                     |                    |         |
| p-Terphenyl                                       | 103              |             | 70 - 130             |        |           |         |         |                         |                     |                    |         |
| Lab Sample ID: LCSD 880-40210/3-                  | Δ                |             |                      |        |           | Clie    | ent Sar | nnle ID <sup>.</sup> I  | ab Contro           | J Samn             | le Dun  |
| Matrix: Solid                                     |                  |             |                      |        |           |         |         |                         |                     | Type: To           |         |
| Analysis Batch: 40168                             |                  |             |                      |        |           |         |         |                         |                     | Batch:             |         |
|   |                  |             | Spike                | LCSD   | LCSD      |         |         |                         | %Rec                | Batom              | RPD     |
| Analyte   |                  |             | Added                |        | Qualifier | Unit    | D       | %Rec                    | Limits              | RPD                | Limit   |
| Gasoline Range Organics                           |                  |             | 1000                 | 869.2  |           | mg/Kg   |         | 87                      | 70 - 130            | 13                 | 20      |
| GRO)-C6-C10                                       |                  |             | 1000                 | 003.2  |           | mg/itg  |         | 07                      | 70 - 100            | 10                 | 20      |
| Diesel Range Organics (Over                       |                  |             | 1000                 | 926.3  |           | mg/Kg   |         | 93                      | 70 - 130            | 3                  | 20      |
| C10-C28)  |                  |             |                      |        |           | 5 5     |         |                         |                     |                    |         |
|   |                  | <b></b>     |                      |        |           |         |         |                         |                     |                    |         |
| D   | LCSD LCS         |             | 1                    |        |           |         |         |                         |                     |                    |         |
|   |                  | alifier     | Limits               |        |           |         |         |                         |                     |                    |         |
| 1-Chlorooctane                                    | 115              |             | 70 - 130             |        |           |         |         |                         |                     |                    |         |
| p-Terphenyl                                       | 102              |             | 70 - 130             |        |           |         |         |                         |                     |                    |         |
| ah Sampla ID: 920 6564 A 4 5 MS                   |                  |             |                      |        |           |         |         | Client                  | Somalo ID           | Motrix             | Cnika   |
| ∟ab Sample ID: 820-6564-A-1-E MS<br>Matrix: Solid |                  |             |                      |        |           |         | Chefft  | Sample ID               |                     |                    |         |
|   |                  |             |                      |        |           |         |         |                         |                     | Type: To<br>Retabl |         |
| Analysis Batch: 40168                             | 0                |             | 0                    |        |           |         |         |                         |                     | Batch:             | 40210   |
|   | Sample San       | -           | Spike                |        | MS        | 11      | -       | 0/ D                    | %Rec                |                    |         |
| Analyte   | Result Qua       | alifier     | Added                |        | Qualifier | Unit    | D       | %Rec                    | Limits              |                    |         |
| Gasoline Range Organics                           | <49.9 U          |             | 999                  | 822.5  |           | mg/Kg   |         | 80                      | 70 - 130            |                    |         |
| (GRO)-C6-C10                                      | 40.0.11          |             | 000                  | 000 5  |           |         |         |                         | 70 400              |                    |         |

|                | MS        | MS        |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 99        |           | 70 _ 130 |
| o-Terphenyl    | 95        |           | 70 - 130 |

<49.9 U

**Eurofins Carlsbad** 

Job ID: 890-3502-1

SDG: 03D2057025

999

906.5

mg/Kg

88

70 - 130

### **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Client Sample ID: Matrix Spike Du |               |  |  |
|-----------------------------------|---------------|--|--|
| Prep Ty                           | ype: Total/NA |  |  |
| Prep B                            | Batch: 40210  |  |  |
| %Rec                              | RPD           |  |  |
| %Rec Limits                       | RPD Limit     |  |  |
| 80 70 - 130                       | 1 20          |  |  |
|                                   |               |  |  |
| 91 70 - 130                       | 3 20          |  |  |
|                                   |               |  |  |
|                                   |               |  |  |
|                                   |               |  |  |
|                                   |               |  |  |
|                                   |               |  |  |
|                                   |               |  |  |

| Lab Sample ID: MB 880-40005/1-A<br>Matrix: Solid<br>Analysis Batch: 40250 | <b>X</b> |               |       |      |      |           |       |        |     | Client S | Sample ID:<br>Prep | Method<br>Type: S |         |
|---|----------|---------------|-------|------|------|-----------|-------|--------|-----|----------|--------------------|-------------------|---------|
|   |          | МВ МВ         |       |      |      |           |       |        |     |          |                    |                   |         |
| Analyte   | Re       | sult Qualifie | r     | RL   |      | Unit      |       | D      | Ρ   | repared  | Analy              | zed               | Dil Fac |
| Chloride  | <{       | 5.00 U        |       | 5.00 |      | mg/K      | g     |        |     |          | 11/23/22           | 2 10:25           | 1       |
| Lab Sample ID: LCS 880-40005/2-   | Α        |               |       |      |      |           |       | Clie   | ent | Sample   | e ID: Lab C        | Control S         | ample   |
| Matrix: Solid   |          |               |       |      |      |           |       |        |     |          | Prep               | Type: S           | oluble  |
| Analysis Batch: 40250   |          |               |       |      |      |           |       |        |     |          |                    |                   |         |
|   |          |               | Spike | I    | LCS  | LCS       |       |        |     |          | %Rec               |                   |         |
| Analyte   |          |               | Added | Re   | sult | Qualifier | Unit  |        | D   | %Rec     | Limits             |                   |         |
| Chloride  |          |               | 250   | 23   | 34.2 |           | mg/Kg |        |     | 94       | 90 - 110           |                   |         |
| Lab Sample ID: LCSD 880-40005/3   | 3-A      |               |       |      |      |           | CI    | ient S | am  | nole ID: | Lab Contr          | ol Samn           | le Dun  |
| Matrix: Solid   |          |               |       |      |      |           |       |        |     |          |                    | Type: S           |         |
| Analysis Batch: 40250   |          |               |       |      |      |           |       |        |     |          |                    |                   |         |
|   |          |               | Spike | L    | CSD  | LCSD      |       |        |     |          | %Rec               |                   | RPD     |
| Analyte   |          |               | Added | Re   | sult | Qualifier | Unit  |        | D   | %Rec     | Limits             | RPD               | Limit   |
| Chloride  |          |               | 250   | 23   | 35.5 |           | mg/Kg |        | _   | 94       | 90 _ 110           | 1                 | 20      |
| Lab Sample ID: 890-3502-1 MS  |          |               |       |      |      |           |       |        |     |          | Client Sa          | ample ID          | : FS08  |
| Matrix: Solid   |          |               |       |      |      |           |       |        |     |          |                    | Type: S           |         |
| Analysis Batch: 40250   |          |               |       |      |      |           |       |        |     |          |                    |                   |         |
|   | Sample   | Sample        | Spike |      | MS   | MS        |       |        |     |          | %Rec               |                   |         |
| Analyte   | Result   | Qualifier     | Added | Re   | sult | Qualifier | Unit  |        | D   | %Rec     | Limits             |                   |         |
| Chloride  | 185      |               | 252   | 42   | 28.8 |           | mg/Kg |        |     | 97       | 90 - 110           |                   |         |
| Lab Sample ID: 890-3502-1 MSD   |          |               |       |      |      |           |       |        |     |          | Client Sa          | ample ID          | : FS08  |
| Matrix: Solid   |          |               |       |      |      |           |       |        |     |          |                    | Type: S           |         |
| Analysis Batch: 40250   |          |               |       |      |      |           |       |        |     |          |                    |                   |         |
| • • • • • • • •   | Sample   | Sample        | Spike | N    | ISD  | MSD       |       |        |     |          | %Rec               |                   | RPD     |
| Analyte   | Result   | Qualifier     | Added | Re   | sult | Qualifier | Unit  |        | D   | %Rec     | Limits             | RPD               | Limit   |
| Chloride  | 185      |               | 252   | 42   | 21.7 |           | mg/Kg |        | _   | 94       | 90 - 110           | 2                 | 20      |

Eurofins Carlsbad

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Job ID: 890-3502-1

SDG: 03D2057025

### **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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Job ID: 890-3502-1 SDG: 03D2057025

## **GC VOA**

#### Prep Batch: 40433

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3502-1         | FS08                   | Total/NA  | Solid  | 5035   |            |
| 890-3502-2         | FS09                   | Total/NA  | Solid  | 5035   |            |
| MB 880-40433/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-40433/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-40433/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3498-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3498-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |
| Prep Batch: 40588  |                        |           |        |        |            |
| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
| MB 880-40588/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 40656

| 690-3496-A-1-F MSD          |                          | Iotai/INA             | Solid           | 5035                   |                     | 8  |
|-----------------------------|--------------------------|-----------------------|-----------------|------------------------|---------------------|----|
| Prep Batch: 40588           |                          |                       |                 |                        |                     |    |
| Lab Sample ID               | Client Sample ID         | Ргер Туре             | Matrix          | Method                 | Prep Batch          | 9  |
| MB 880-40588/5-A            | Method Blank             | Total/NA              | Solid           | 5035                   |                     |    |
| Analysis Batch: 40656       |                          |                       |                 |                        |                     | 10 |
|                             | Client Comple ID         | Dren Tune             | Matrix          | Mathad                 | Dren Detek          |    |
| Lab Sample ID<br>890-3502-1 | Client Sample ID<br>FS08 | Prep Type<br>Total/NA | Matrix<br>Solid | <u>Method</u><br>8021B | Prep Batch<br>40433 | 11 |
| 890-3502-2                  | FS09                     | Total/NA              | Solid           | 8021B                  | 40433               | 40 |
| MB 880-40433/5-A            | Method Blank             | Total/NA              | Solid           | 8021B                  | 40433               | 12 |
| MB 880-40588/5-A            | Method Blank             | Total/NA              | Solid           | 8021B                  | 40588               | 40 |
| LCS 880-40433/1-A           | Lab Control Sample       | Total/NA              | Solid           | 8021B                  | 40433               | 13 |
| LCSD 880-40433/2-A          | Lab Control Sample Dup   | Total/NA              | Solid           | 8021B                  | 40433               |    |
| 890-3498-A-1-E MS           | Matrix Spike             | Total/NA              | Solid           | 8021B                  | 40433               | 14 |
| 890-3498-A-1-F MSD          | Matrix Spike Duplicate   | Total/NA              | Solid           | 8021B                  | 40433               |    |

#### Analysis Batch: 40791

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3502-1    | FS08             | Total/NA  | Solid  | Total BTEX |            |
| 890-3502-2    | FS09             | Total/NA  | Solid  | Total BTEX |            |

### GC Semi VOA

#### Analysis Batch: 40168

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3502-1         | FS08                   | Total/NA  | Solid  | 8015B NM | 40210      |
| 890-3502-2         | FS09                   | Total/NA  | Solid  | 8015B NM | 40210      |
| MB 880-40210/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 40210      |
| LCS 880-40210/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 40210      |
| LCSD 880-40210/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 40210      |
| 820-6564-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 40210      |
| 820-6564-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 40210      |

#### Prep Batch: 40210

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-3502-1         | FS08                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3502-2         | FS09                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-40210/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-40210/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-40210/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 820-6564-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 820-6564-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

### **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

### GC Semi VOA

### Analysis Batch: 40303

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3502-1    | FS08             | Total/NA  | Solid  | 8015 NM |            |
| 890-3502-2    | FS09             | Total/NA  | Solid  | 8015 NM |            |
|               |                  |           |        |         |            |

#### HPLC/IC

#### Leach Batch: 40005

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch | _ |
|--------------------|------------------------|-----------|--------|----------|------------|---|
| 890-3502-1         | FS08                   | Soluble   | Solid  | DI Leach |            | 8 |
| 890-3502-2         | FS09                   | Soluble   | Solid  | DI Leach |            |   |
| MB 880-40005/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            | 0 |
| LCS 880-40005/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            | 3 |
| LCSD 880-40005/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |   |
| 890-3502-1 MS      | FS08                   | Soluble   | Solid  | DI Leach |            |   |
| 890-3502-1 MSD     | FS08                   | Soluble   | Solid  | DI Leach |            |   |
|                    |                        |           |        |          |            |   |

#### Analysis Batch: 40250

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |  |
|--------------------|------------------------|-----------|--------|--------|------------|--|
| 890-3502-1         | FS08                   | Soluble   | Solid  | 300.0  | 40005      |  |
| 890-3502-2         | FS09                   | Soluble   | Solid  | 300.0  | 40005      |  |
| MB 880-40005/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 40005      |  |
| LCS 880-40005/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 40005      |  |
| LCSD 880-40005/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 40005      |  |
| 890-3502-1 MS      | FS08                   | Soluble   | Solid  | 300.0  | 40005      |  |
| 890-3502-1 MSD     | FS08                   | Soluble   | Solid  | 300.0  | 40005      |  |
|                    |                        |           |        |        |            |  |

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Job ID: 890-3502-1 SDG: 03D2057025 Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3502-1 SDG: 03D2057025

### Lab Sample ID: 890-3502-1 Matrix: Solid

Lab Sample ID: 890-3502-2

Matrix: Solid

Client Sample ID: FS08 Date Collected: 11/17/22 12:40 Date Received: 11/17/22 14:53

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 40433  | 11/30/22 10:40 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 40656  | 12/01/22 04:54 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40791  | 12/01/22 12:55 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40303  | 11/23/22 11:46 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.03 g | 10 mL  | 40210  | 11/22/22 11:24 | AM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40168  | 11/23/22 04:36 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.97 g  | 50 mL  | 40005  | 11/20/22 12:12 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40250  | 11/23/22 12:30 | SMC     | EET MID |

### Client Sample ID: FS09

Date Collected: 11/17/22 12:45 Date Received: 11/17/22 14:53

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.97 g  | 5 mL   | 40433  | 11/30/22 10:40 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 40656  | 12/01/22 05:14 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40791  | 12/01/22 12:55 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40303  | 11/23/22 11:46 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.05 g | 10 mL  | 40210  | 11/22/22 11:24 | AM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40168  | 11/23/22 04:58 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.98 g  | 50 mL  | 40005  | 11/20/22 12:12 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40250  | 11/23/22 12:55 | SMC     | EET MID |

#### Laboratory References:

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

### Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Laboratory: Eurofins Midland

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

| h <b>ority</b><br>as                           |             | Program                          | Identification Number                        | Expiration Date        |
|--|-------------|----------------------------------|--|------------------------|
|  |             | NELAP                            | T104704400-22-24                             | 06-30-23               |
| The following analytes<br>he agency does not o | •           | but the laboratory is not certif | ied by the governing authority. This list ma | y include analytes for |
| Analysis Method                                | Prep Method | Matrix                           | Analyte                                      |                        |
| Analysis Method<br>8015 NM                     | Prep Method | Matrix<br>Solid                  | Analyte<br>Total TPH                         |                        |

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Job ID: 890-3502-1

SDG: 03D2057025

### **Method Summary**

#### Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3502-1 SDG: 03D2057025

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

#### Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions. SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

### **Sample Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3502-1 SDG: 03D2057025

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3502-1    | FS08             | Solid  | 11/17/22 12:40 | 11/17/22 14:53 | 1     |
| 890-3502-2    | FS09             | Solid  | 11/17/22 12:45 | 11/17/22 14:53 | 1     |
|               |                  |        |                |                |       |

Released to Imaging: 2/22/2023 1:43:58 PM

| Project Manager: Hadlie Green<br>Company Name: Ensolum, LLC<br>Address: 601 N. Marien                          | Fins Environment Testing<br>Xenco<br>Hadlie Green<br>Ensolum, LLC<br>Ensolum, LLC   | Hous<br>Midianc<br>EL Pa<br>Hobb<br>Bill to: (If different)<br>Company Name:<br>00 Address:  |
|--|---|--|
| 601 N. Marienfeld<br>Midland, TX 79701   | old Street, Suite 4   |  |
| 7-8  | 432-557-8895  | Email: Hgreen@ensolum.com; Kjennings@ensolu.com  |
| SEMU   | SEMU Permian South Header   | Turn Around  |
| Project Number: 32 5   | 03D2057025<br>32 549475 -103 190427   | Routine Rush   |
|  | Conner Shore  | TAT starts the day received by   |
|  | 03D2057025  | eceiv  |
| SAMPLE RECEIPT T   | Blank:  | Wet Ice: Kes   |
| act:   | es) No  | Factor: TDA  |
| Cooler Custody Seals: Tes  | NO NIA  | Temperature Reading:   |
| Total Containers:  |   | Corrected Temperature:   |
| Sample Identification  | Matrix Date<br>Sampled  | Time<br>Sampled Depth  |
| FS08   | SL 11/17/2022   | 2 1240 1   |
| FS09   | SL 11/17/2022   | 2 1245 1   |
|  |   |  |
|  | 101   |  |
|  | 14  |  |
|  |   |  |
| 1 w  |   |  |
| X  |   |  |
| Total 200.7 / 6010 200   | 200.8 / 6020:   |  |
| Circle Method(S) and Metal(S) to be analyzed   | ) to be analyzed  | BRCRA 13PPM Texas 11   |
| ice: Signature or this document and<br>ervice. Eurofins Xenco will be liabl<br>urofins Xenco. A minimum charge |   | 8RCRA 13PPM Texas 11 A<br>TCLP / SPLP 6010: 8RCRA  |
| Relinguished by: (Signature)   | Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco with be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the contro of service. Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotiant of the sample submitted to Eurofins Xenco.  | BRCRA 13PPM<br>TCLP / SPLP 60<br>natitutes a valid purchase or<br>ind shall not assume any rei<br>h project and a sume any rei   |
| N'   | Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$5.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiating and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiating the client is the set of the client of the control of the client is the client of the clie | BRCRA 13PPM TCLP / SPLP 60<br>TCLP / SPLP 60<br>mples constitutes a valid purchase or<br>amples and shall not assume any res<br>ad to each project and a charge of \$5<br>ad to each project and a charge of \$5 |
|  | d relinquishment of samples co<br>le only for the cost of samples<br>of \$85.00 will be applied to ea<br>re) Recei  | BRCRA 13PPM<br>TCLP / SPLP 60<br>Ind shall not assume any rei<br>h project and a charge of \$5<br>h project and a charge of \$5<br>h project and a charge of \$5   |

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3502 List Number: 1 Creator: Clifton, Cloe

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

Job Number: 890-3502-1 SDG Number: 03D2057025

Eurofins Carlsbad Released to Imaging: 2/22/2023 1:43:58 PM

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Job Number: 890-3502-1 SDG Number: 03D2057025

List Source: Eurofins Midland

List Creation: 11/21/22 08:46 AM

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3502 List Number: 2 Creator: Rodriguez, Leticia

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

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



**Environment Testing** 

### Page 103 of 222

**ANALYTICAL REPORT** 

## **PREPARED FOR**

Attn: Kalei Jennings Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701 Generated 11/29/2022 11:47:52 AM

## **JOB DESCRIPTION**

SEMU PERMIAN SOUTH HEADER SDG NUMBER 03D2057025

## **JOB NUMBER**

890-3509-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information



Received by OCD: 2/7/2023 10:16:33 AM

1

## **Eurofins Carlsbad**

Job Notes

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

### Authorization

RAMER

Generated 11/29/2022 11:47:52 AM

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

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

Laboratory Job ID: 890-3509-1 SDG: 03D2057025

# **Table of Contents**

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|                 | Definitions/Glossary   |                    |    |
|-----------------|--|--------------------|----|
| Client: Ensolu  |  | Job ID: 890-3509-1 | ī  |
| Project/Site: S | SEMU PERMIAN SOUTH HEADER  | SDG: 03D2057025    |    |
| Qualifiers      |  |                    |    |
| GC VOA          |  |                    | 5  |
| Qualifier       | Qualifier Description  |                    |    |
| F1              | MS and/or MSD recovery exceeds control limits.   |                    | 2  |
| F2              | MS/MSD RPD exceeds control limits  |                    |    |
| U               | Indicates the analyte was analyzed for but not detected.                                   |                    | 5  |
| GC Semi VOA     | Α  |                    |    |
| Qualifier       | Qualifier Description  |                    |    |
| F2              | MS/MSD RPD exceeds control limits  |                    |    |
| S1-             | Surrogate recovery exceeds control limits, low biased.                                     |                    | 2  |
| S1+             | Surrogate recovery exceeds control limits, high biased.                                    |                    |    |
| U               | Indicates the analyte was analyzed for but not detected.                                   |                    | 5  |
| 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.                |                    |    |
| ¤               | Listed under the "D" column to designate that the result is reported on a dry weight basis |                    |    |
| %R              | Percent Recovery   |                    | I. |
| CFL             | Contains Free Liquid   |                    |    |
| CFU             | Colony Forming Unit  |                    |    |
| CNF             | Contains No Free Liquid  |                    |    |

| 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   |

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Job ID: 890-3509-1 SDG: 03D2057025

#### Job ID: 890-3509-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3509-1

#### Receipt

The samples were received on 11/17/2022 2:57 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 1.8°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS05A (890-3509-1), SS06A (890-3509-2) and SS07A (890-3509-3).

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-40434 and analytical batch 880-40362 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: The surrogate recovery for the blank associated with preparation batch 880-40270 and analytical batch 880-40256 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SS05A (890-3509-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-40387 and analytical batch 880-40408 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SS06A (890-3509-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The method blank for preparation batch 880-40387 and analytical batch 880-40408 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-40387 and analytical batch 880-40408 was outside control limits. Sample non-homogeneity is suspected.

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 880-40006 and analytical batch 880-40248 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. The associated samples are: SS05A (890-3509-1), SS06A (890-3509-2), SS07A (890-3509-3), (890-3507-A-1-A), (890-3507-A-1-B MS) and (890-3507-A-1-C MSD).

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

### **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

### **Client Sample ID: SS05A**

Date Collected: 11/17/22 12:35 Date Received: 11/17/22 14:57

Sample Depth: 1

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

| Analyte                      | Result          | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------------|-------------|----------|-------|---|----------------|----------------|---------|
| Benzene                      | <0.00200        | U F1 F2     | 0.00200  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| Toluene                      | <0.00200        | U F1 F2     | 0.00200  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| Ethylbenzene                 | <0.00200        | U F1 F2     | 0.00200  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| m-Xylene & p-Xylene          | <0.00401        | U F1 F2     | 0.00401  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| o-Xylene                     | <0.00200        | U F1 F2     | 0.00200  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| Xylenes, Total               | <0.00401        | U F1 F2     | 0.00401  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| Surrogate                    | %Recovery       | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)  | 88              |             | 70 - 130 |       |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| 1,4-Difluorobenzene (Surr)   | 100             |             | 70 - 130 |       |   | 11/28/22 11:03 | 11/28/22 23:11 | 1       |
| Method: TAL SOP Total BTEX - | Total BTEX Calo | culation    |          |       |   |                |                |         |
| Analyte                      | Result          | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                   | <0.00401        | U           | 0.00401  | mg/Kg |   |                | 11/29/22 09:20 | 1       |
| Method: SW846 8015 NM - Dies | sel Range Organ | ics (DRO) ( | GC)      |       |   |                |                |         |
| Analyte                      | Result          | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total TPH                    | <50.0           | U           | 50.0     | mg/Kg |   |                | 11/28/22 09:30 | 1       |

|                             |    | 346 8015B NM - Diesel Range Organics (DRO) (GC) |    |
|-----------------------------|----|---|----|
| Analyte Result Qualifier RL | RL | Result Qualifier                                | Ar |

| Analyte                                 | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0     | U         | 50.0     | mg/Kg |   | 11/23/22 08:51 | 11/23/22 19:01 | 1       |
| Diesel Range Organics (Over<br>C10-C28) | <50.0     | U         | 50.0     | mg/Kg |   | 11/23/22 08:51 | 11/23/22 19:01 | 1       |
| Oll Range Organics (Over C28-C36)       | <50.0     | U         | 50.0     | mg/Kg |   | 11/23/22 08:51 | 11/23/22 19:01 | 1       |
| Surrogate                               | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          | 0.04      | S1-       | 70 - 130 |       |   | 11/23/22 08:51 | 11/23/22 19:01 | 1       |
| o-Terphenyl                             | 0.4       | S1-       | 70 - 130 |       |   | 11/23/22 08:51 | 11/23/22 19:01 | 1       |

| Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble |          |        |           |      |       |   |          |                |         |
|--|----------|--------|-----------|------|-------|---|----------|----------------|---------|
|  | Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
| l  | Chloride | 84.1   |           | 4.95 | mg/Kg |   |          | 11/23/22 06:23 | 1       |

#### **Client Sample ID: SS06A** Date Collected: 11/17/22 12:30 Date Received: 11/17/22 14:57

Sample Depth: 1

| Method: SW846 8021B - Volat | ile Organic Comp | ounds (GC |          |       |   |                |                |         |
|-----------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| Toluene                     | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| Ethylbenzene                | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| m-Xylene & p-Xylene         | <0.00402         | U         | 0.00402  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| o-Xylene                    | <0.00201         | U         | 0.00201  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| Xylenes, Total              | <0.00402         | U         | 0.00402  | mg/Kg |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |
| Surrogate                   | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 101              |           | 70 - 130 |       |   | 11/28/22 11:03 | 11/28/22 23:31 | 1       |

Eurofins Carlsbad

Lab Sample ID: 890-3509-2

Matrix: Solid

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Job ID: 890-3509-1 SDG: 03D2057025

## Lab Sample ID: 890-3509-1

Matrix: Solid
# **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

**Client Sample ID: SS06A** 

Date Collected: 11/17/22 12:30

Date Received: 11/17/22 14:57

Sample Depth: 1

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

| Surrogate  | %Recovery                 | Qualifier               | Limits                         |       |   | Prepared                          | Analyzed                   | Dil Fa |
|--|---------------------------|-------------------------|--------------------------------|-------|---|-----------------------------------|----------------------------|--------|
| 1,4-Difluorobenzene (Surr)                                 | 92                        |                         | 70 - 130                       |       |   | 11/28/22 11:03                    | 11/28/22 23:31             |        |
| Method: TAL SOP Total BTEX - 1                             | Total BTEX Cald           | ulation                 |                                |       |   |                                   |                            |        |
| Analyte  | Result                    | Qualifier               | RL                             | Unit  | D | Prepared                          | Analyzed                   | Dil Fa |
| Total BTEX   | <0.00402                  | U                       | 0.00402                        | mg/Kg |   |                                   | 11/29/22 09:20             |        |
| Method: SW846 8015 NM - Diese                              | el Range Organ            | ics (DRO) (             | GC)                            |       |   |                                   |                            |        |
| Analyte  | Result                    | Qualifier               | RL                             | Unit  | D | Prepared                          | Analyzed                   | Dil Fa |
| Total TPH  | 70.2                      |                         | 49.9                           | mg/Kg |   |                                   | 11/29/22 12:08             |        |
| Method: SW846 8015B NM - Die                               | sel Range Orga            | nics (DRO)              | (6C)                           |       |   |                                   |                            |        |
| Analyte  |                           | Qualifier               | RL                             | Unit  | D | Prepared                          | Analyzed                   | Dil Fa |
| Gasoline Range Organics                                    | <49.9                     | U                       | 49.9                           | mg/Kg |   | 11/28/22 09:07                    | 11/28/22 23:18             |        |
| (GRO)-C6-C10   |                           |                         |                                |       |   |                                   |                            |        |
| Diesel Range Organics (Over                                | 70.2                      |                         | 49.9                           | mg/Kg |   | 11/28/22 09:07                    | 11/28/22 23:18             |        |
|  |                           |                         |                                |       |   |                                   |                            |        |
|  |                           |                         |                                |       |   |                                   | 11/28/22 23:18             |        |
|  | <49.9                     | U                       | 49.9                           | mg/Kg |   | 11/28/22 09:07                    |                            |        |
| Oll Range Organics (Over C28-C36)                          | <49.9<br><b>%Recovery</b> |                         | 49.9<br><i>Limits</i>          | mg/Kg |   | 11/28/22 09:07<br><b>Prepared</b> | Analyzed                   | Dil Fa |
| Oll Range Organics (Over C28-C36) Surrogate                | %Recovery                 |                         |                                | mg/Kg |   |                                   | Analyzed<br>11/28/22 23:18 | Dil Fa |
| Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane | %Recovery                 | Qualifier               | Limits                         | mg/Kg |   | Prepared                          |                            | Dil Fa |
| Surrogate  | %Recovery<br>135<br>139   | Qualifier<br>S1+<br>S1+ | Limits<br>70 - 130<br>70 - 130 | mg/Kg |   | Prepared 11/28/22 09:07           | 11/28/22 23:18             | Dil Fa |

Chloride 5.01 11/23/22 06:29 21.8 mg/Kg 1

**Client Sample ID: SS07A** 

Date Collected: 11/17/22 12:25 Date Received: 11/17/22 14:57 Sample Depth: 1

Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 11/28/22 11:03 11/29/22 03:37 Toluene <0.00200 U 0.00200 11/28/22 11:03 11/29/22 03:37 mg/Kg Ethylbenzene <0.00200 U 0.00200 mg/Kg 11/28/22 11:03 11/29/22 03:37 <0.00401 U 0.00401 m-Xylene & p-Xylene mg/Kg 11/28/22 11:03 11/29/22 03:37 o-Xylene <0.00200 U 0.00200 mg/Kg 11/28/22 11:03 11/29/22 03:37 Xylenes, Total <0.00401 U 0.00401 mg/Kg 11/28/22 11:03 11/29/22 03:37 %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 80 70 - 130 11/28/22 11:03 4-Bromofluorobenzene (Surr) 11/29/22 03:37 1,4-Difluorobenzene (Surr) 84 70 - 130 11/28/22 11:03 11/29/22 03:37 Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte Result Qualifier RL Unit D Dil Fac Prepared Analyzed Total BTEX <0.00401 U 0.00401 11/29/22 09:20 mg/Kg

| Method: SW846 8015 NM - Diesel R | ange Organi | ics (DRO) ( | GC)  |       |   |          |                |         |
|----------------------------------|-------------|-------------|------|-------|---|----------|----------------|---------|
| Analyte                          | Result      | Qualifier   | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Total TPH                        | <50.0       | U           | 50.0 | mg/Kg |   |          | 11/29/22 12:08 | 1       |

**Eurofins Carlsbad** 

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Matrix: Solid

5

Job ID: 890-3509-1 SDG: 03D2057025

Lab Sample ID: 890-3509-2

Lab Sample ID: 890-3509-3

Matrix: Solid

1

1

1

1

1

1

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3509-1 SDG: 03D2057025

Matrix: Solid

5

Lab Sample ID: 890-3509-3

# Client Sample ID: SS07A

Date Collected: 11/17/22 12:25 Date Received: 11/17/22 14:57

Sample Depth: 1

Client: Ensolum

| Analyte                           | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|----------------|--------------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics           | <50.0          | U            | 50.0     | mg/Kg |   | 11/28/22 09:07 | 11/28/22 23:40 | 1       |
| (GRO)-C6-C10                      |                |              |          |       |   |                |                |         |
| Diesel Range Organics (Over       | <50.0          | U            | 50.0     | mg/Kg |   | 11/28/22 09:07 | 11/28/22 23:40 | 1       |
| C10-C28)                          |                |              |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <50.0          | U            | 50.0     | mg/Kg |   | 11/28/22 09:07 | 11/28/22 23:40 | 1       |
| Surrogate                         | %Recovery      | Qualifier    | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 128            |              | 70 - 130 |       |   | 11/28/22 09:07 | 11/28/22 23:40 | 1       |
| o-Terphenyl                       | 124            |              | 70 - 130 |       |   | 11/28/22 09:07 | 11/28/22 23:40 | 1       |
| Method: MCAWW 300.0 - Anions      | , Ion Chromato | ography - So | oluble   |       |   |                |                |         |
| Analyta                           | Result         | Qualifier    | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Analyte                           | Result         | Quannoi      | =        | •     | _ |                | /              | 2       |

# **Surrogate Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

|                     |                        |          |          | Percent Surro |
|---------------------|------------------------|----------|----------|---------------|
|                     |                        | 1CO1     | OTPH1    |               |
| Lab Sample ID       | Client Sample ID       | (70-130) | (70-130) |               |
| 880-21770-A-1-E MS  | Matrix Spike           | 99       | 98       |               |
| 880-21770-A-1-F MSD | Matrix Spike Duplicate | 100      | 98       |               |
| 880-21869-A-1-F MS  | Matrix Spike           | 109      | 102      |               |
| 880-21869-A-1-G MSD | Matrix Spike Duplicate | 98       | 92       |               |
| 890-3509-1          | SS05A                  | 0.04 S1- | 0.4 S1-  |               |
| 890-3509-2          | SS06A                  | 135 S1+  | 139 S1+  |               |
| 890-3509-3          | SS07A                  | 128      | 124      |               |
| LCS 880-40270/2-A   | Lab Control Sample     | 94       | 98       |               |
| LCS 880-40387/2-A   | Lab Control Sample     | 129      | 126      |               |
| LCSD 880-40270/3-A  | Lab Control Sample Dup | 81       | 86       |               |
| LCSD 880-40387/3-A  | Lab Control Sample Dup | 128      | 126      |               |
| MB 880-40270/1-A    | Method Blank           | 129      | 140 S1+  |               |
| MB 880-40387/1-A    | Method Blank           | 129      | 149 S1+  |               |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Job ID: 890-3509-1 SDG: 03D2057025

Prep Type: Total/NA

5 6

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Lab Sample ID: MB 880-40407/5-A<br>Matrix: Solid          |              |           |                                 |         |           |       |      |       |            | mple ID: Meth<br>Prep Type: |           |
|---|--------------|-----------|---------------------------------|---------|-----------|-------|------|-------|------------|-----------------------------|-----------|
| Analysis Batch: 40362                                     |              |           |                                 |         |           |       |      |       |            | Prep Bate                   |           |
|   | МВ           | МВ        |                                 |         |           |       |      |       |            | Trop But                    |           |
| Analyte   |              | Qualifier | RL                              | -       | Unit      |       | D    | Р     | repared    | Analyzed                    | Dil Fa    |
| Benzene   | <0.00200     | U         | 0.00200                         |         | mg/K      | a     | _    |       | 8/22 09:59 | 11/28/22 12:11              |           |
| Toluene   | <0.00200     | U         | 0.00200                         | )       | mg/K      | -     |      | 11/2  | 8/22 09:59 | 11/28/22 12:11              |           |
| Ethylbenzene  | <0.00200     | U         | 0.00200                         | )       | mg/K      | -     |      | 11/2  | 8/22 09:59 | 11/28/22 12:11              |           |
| m-Xylene & p-Xylene                                       | <0.00400     | U         | 0.00400                         |         | mg/K      |       |      | 11/2  | 8/22 09:59 | 11/28/22 12:11              | ••••••    |
| o-Xylene  | <0.00200     |           | 0.00200                         |         | mg/K      | -     |      |       | 8/22 09:59 | 11/28/22 12:11              |           |
| Xylenes, Total  | < 0.00400    |           | 0.00400                         |         | mg/K      | -     |      |       | 8/22 09:59 | 11/28/22 12:11              |           |
| · · · · · · · · · · · · · · · · · · ·                     |              | -         |                                 |         |           | 5     |      | =     |            |                             |           |
|   | MB           | МВ        |                                 |         |           |       |      |       |            |                             |           |
| Surrogate   | %Recovery    |           | Limits                          | -       |           |       |      | P     | repared    | Analyzed                    | Dil Fa    |
| 4-Bromofluorobenzene (Surr)                               | 80           |           | 70 - 130                        |         |           |       |      | 11/2  | 8/22 09:59 | 11/28/22 12:11              |           |
| 1,4-Difluorobenzene (Surr)                                | 103          |           | 70 - 130                        |         |           |       |      | 11/2  | 8/22 09:59 | 11/28/22 12:11              |           |
| Lab Sample ID: MB 880-40434/5-A                           |              |           |                                 |         |           |       |      |       | Client Sa  | mple ID: Meth               | od Blani  |
| Matrix: Solid   |              |           |                                 |         |           |       |      |       |            | Prep Type:                  | Total/N/  |
| Analysis Batch: 40362                                     |              |           |                                 |         |           |       |      |       |            | Prep Bate                   | ch: 40434 |
|   | MB           | MB        |                                 |         |           |       |      |       |            |                             |           |
| Analyte   | Result       | Qualifier | RL                              |         | Unit      |       | D    | Р     | repared    | Analyzed                    | Dil Fa    |
| Benzene   | <0.00200     | U         | 0.00200                         |         | mg/K      | g     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
| Toluene   | <0.00200     | U         | 0.00200                         | )       | mg/K      | g     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
| Ethylbenzene  | <0.00200     | U         | 0.00200                         | )       | mg/K      | g     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
| m-Xylene & p-Xylene                                       | <0.00400     | U         | 0.00400                         | )       | mg/K      | 9     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              | ••••••    |
| o-Xylene  | <0.00200     | U         | 0.00200                         | )       | mg/K      | g     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
| Xylenes, Total  | <0.00400     | U         | 0.00400                         | )       | mg/K      | 9     |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
|   | MB           |           |                                 |         |           |       |      |       |            |                             |           |
| Surrogate   | %Recovery    |           | Limits                          | -       |           |       |      |       | repared    | Analyzed                    | Dil Fa    |
| 4-Bromofluorobenzene (Surr)                               | 83           |           | 70 - 130                        |         |           |       |      |       | 8/22 11:03 | 11/28/22 22:49              |           |
| 1,4-Difluorobenzene (Surr)                                | 105          |           | 70 - 130                        |         |           |       |      | 11/2  | 8/22 11:03 | 11/28/22 22:49              |           |
| Lab Sample ID: LCS 880-40434/1-/                          | 4            |           |                                 |         |           |       | С    | lient | Sample     | ID: Lab Contro              |           |
| Matrix: Solid   |              |           |                                 |         |           |       |      |       |            | Prep Type:                  |           |
| Analysis Batch: 40362                                     |              |           |                                 |         |           |       |      |       |            | Prep Bate                   | ch: 40434 |
|   |              |           | Spike                           | LCS     | LCS       |       |      |       |            | %Rec                        |           |
| Analyte   |              |           | Added                           |         | Qualifier | Unit  |      |       | %Rec       | Limits                      |           |
| Benzene   |              |           | 0.100                           | 0.1007  |           | mg/Kg |      |       | 101        | 70 - 130                    |           |
| Toluene   |              |           | 0.100                           | 0.09296 |           | mg/Kg |      |       | 93         | 70 - 130                    |           |
| Ethylbenzene  |              |           | 0.100                           | 0.09103 |           | mg/Kg |      |       | 91         | 70 - 130                    |           |
| m-Xylene & p-Xylene                                       |              |           | 0.200                           | 0.1893  |           | mg/Kg |      |       | 95         | 70 - 130                    |           |
| o-Xylene  |              |           | 0.100                           | 0.09471 |           | mg/Kg |      |       | 95         | 70 - 130                    |           |
| •   | LCS LCS      |           |                                 |         |           |       |      |       |            |                             |           |
|   | Recovery Qua | unier     | Limits                          |         |           |       |      |       |            |                             |           |
| 4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr) | 97<br>105    |           | 70 <sub>-</sub> 130<br>70 - 130 |         |           |       |      |       |            |                             |           |
|   |              |           |                                 |         |           |       |      | _     |            |                             |           |
| Lab Sample ID: LCSD 880-40434/2                           | <b>-A</b>    |           |                                 |         |           | CI    | ient | Sam   | ple ID: L  | ab Control Sa               |           |
| Matrix: Solid   |              |           |                                 |         |           |       |      |       |            | Prep Type:                  |           |
| Analysis Batch: 40362                                     |              |           |                                 |         |           |       |      |       |            | Prep Bate                   | ch: 40434 |
|   |              |           |                                 |         |           |       |      |       |            |                             |           |

Limits

5

7 8

Job ID: 890-3509-1

SDG: 03D2057025

Released to Imaging: 2/22/2023 1:43:58 PM

Analyte

Benzene

Result Qualifier

0.1120

Unit

mg/Kg

D

%Rec

112

Added

0.100

Limit

35

RPD

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3509-1 SDG: 03D2057025

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

| Lab Sample ID: LCSD 880-404        | 34/2-A               |                               |                  |                    |                | Clier          | nt Sam | ple ID:  | Lab Contro           |           |                |
|------------------------------------|----------------------|-------------------------------|------------------|--------------------|----------------|----------------|--------|----------|----------------------|-----------|----------------|
| Matrix: Solid                      |                      |                               |                  |                    |                |                |        |          | Prep T               | ype: Tot  | al/NA          |
| Analysis Batch: 40362              |                      |                               |                  |                    |                |                |        |          | Prep                 | Batch:    | 40434          |
|                                    |                      |                               | Spike            | LCSD               | LCSD           |                |        |          | %Rec                 |           | RPD            |
| Analyte                            |                      |                               | Added            | Result             | Qualifier      | Unit           | D      | %Rec     | Limits               | RPD       | Limit          |
| Toluene                            |                      |                               | 0.100            | 0.1008             |                | mg/Kg          |        | 101      | 70 - 130             | 8         | 35             |
| Ethylbenzene                       |                      |                               | 0.100            | 0.09560            |                | mg/Kg          |        | 96       | 70 - 130             | 5         | 35             |
| m-Xylene & p-Xylene                |                      |                               | 0.200            | 0.1933             |                | mg/Kg          |        | 97       | 70 - 130             | 2         | 3              |
| o-Xylene                           |                      |                               | 0.100            | 0.09615            |                | mg/Kg          |        | 96       | 70 - 130             | 2         | 3              |
|                                    | LCSD                 | LCSD                          |                  |                    |                |                |        |          |                      |           |                |
| Surrogate                          | %Recovery            | Qualifier                     | Limits           |                    |                |                |        |          |                      |           |                |
| 4-Bromofluorobenzene (Surr)        | 93                   |                               | 70 - 130         |                    |                |                |        |          |                      |           |                |
| 1,4-Difluorobenzene (Surr)         | 109                  |                               | 70 - 130         |                    |                |                |        |          |                      |           |                |
| -<br>Lab Sample ID: 890-3509-1 MS  | 5                    |                               |                  |                    |                |                |        |          | Client Sam           | ple ID: S | S05A           |
| Matrix: Solid                      |                      |                               |                  |                    |                |                |        |          | Prep T               | ype: Tot  | tal/NA         |
| Analysis Batch: 40362              |                      |                               |                  |                    |                |                |        |          |                      | Batch:    |                |
|                                    | Sample               | Sample                        | Spike            | MS                 | MS             |                |        |          | %Rec                 |           |                |
| Analyte                            | Result               | Qualifier                     | Added            | Result             | Qualifier      | Unit           | D      | %Rec     | Limits               |           |                |
| Benzene                            | <0.00200             | U F1 F2                       | 0.0996           | 0.05553            | F1             | mg/Kg          |        | 56       | 70 - 130             |           |                |
| Toluene                            | <0.00200             | U F1 F2                       | 0.0996           | 0.05359            | F1             | mg/Kg          |        | 54       | 70 - 130             |           |                |
| Ethylbenzene                       | <0.00200             | U F1 F2                       | 0.0996           | 0.05575            | F1             | mg/Kg          |        | 56       | 70 - 130             |           |                |
| m-Xylene & p-Xylene                | <0.00401             | U F1 F2                       | 0.199            | 0.1058             | F1             | mg/Kg          |        | 53       | 70 - 130             |           |                |
| o-Xylene                           | <0.00200             | U F1 F2                       | 0.0996           | 0.05416            | F1             | mg/Kg          |        | 54       | 70 - 130             |           |                |
|                                    | MS                   | MS                            |                  |                    |                |                |        |          |                      |           |                |
| Surrogate                          | %Recovery            | Qualifier                     | Limits           |                    |                |                |        |          |                      |           |                |
| 4-Bromofluorobenzene (Surr)        | 103                  |                               | 70 _ 130         |                    |                |                |        |          |                      |           |                |
| 1,4-Difluorobenzene (Surr)         | 104                  |                               | 70 - 130         |                    |                |                |        |          |                      |           |                |
| Lab Sample ID: 890-3509-1 MS       | D                    |                               |                  |                    |                |                |        |          | Client Sam           | ple ID: S | S05A           |
| Matrix: Solid                      |                      |                               |                  |                    |                |                |        |          | Prep T               | ype: Tot  | al/NA          |
| Analysis Batch: 40362              |                      |                               |                  |                    |                |                |        |          | Prep                 | Batch:    | 40434          |
|                                    | Sample               | Sample                        | Spike            | MSD                | MSD            |                |        |          | %Rec                 |           | RPD            |
|                                    | Result               | Qualifier                     | Added            | Result             | Qualifier      | Unit           | D      | %Rec     | Limits               | RPD       | Limi           |
| Analyte                            |                      |                               | 0.0994           | 0.02856            | F1 F2          | mg/Kg          |        | 29       | 70 - 130             | 64        | 35             |
| Analyte<br>Benzene                 | <0.00200             | UFIFZ                         |                  |                    |                |                |        |          |                      |           |                |
|                                    | <0.00200<br><0.00200 |                               | 0.0994           | 0.02643            | F1 F2          | mg/Kg          |        | 27       | 70 - 130             | 68        | 35             |
| Benzene                            |                      | U F1 F2                       | 0.0994<br>0.0994 | 0.02643<br>0.02401 |                | mg/Kg<br>mg/Kg |        | 27<br>24 | 70 - 130<br>70 - 130 | 68<br>80  |                |
| Benzene<br>Toluene                 | <0.00200             | U F1 F2<br>U F1 F2            |                  |                    | F1 F2          |                |        |          |                      |           | 35<br>35<br>35 |
| Benzene<br>Toluene<br>Ethylbenzene | <0.00200<br><0.00200 | U F1 F2<br>U F1 F2<br>U F1 F2 | 0.0994           | 0.02401            | F1 F2<br>F1 F2 | mg/Kg          |        | 24       | 70 - 130             | 80        | 35             |

| Matha all 004 CD | NIME DISCOULD | D              |         |
|------------------|---------------|----------------|---------|
|                  |               | Rando Urdanics | I GALLA |
|                  | INN - DICSCI  | Range Organics |         |

%Recovery Qualifier

74

100

| Lab Sample ID: MB 880-40270/1-A<br>Matrix: Solid<br>Analysis Batch: 40256 | мв                     | мв        |                |               |          | Client Sa               | mple ID: Metho<br>Prep Type: <sup>-</sup><br>Prep Batcl | Total/NA     |
|---|------------------------|-----------|----------------|---------------|----------|-------------------------|---|--------------|
| Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10                        | <b>Result</b><br><50.0 | Qualifier | <b>RL</b> 50.0 | Unit<br>mg/Kg | <u> </u> | Prepared 11/23/22 08:51 | Analyzed 11/23/22 08:54                                 | Dil Fac<br>1 |

Limits

70 - 130

70 - 130

Eurofins Carlsbad

Surrogate

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Lab Sample ID: MB 880-40270/1-A

Matrix: Solid

Analyte

C10-C28)

Surrogate 1-Chlorooctane o-Terphenyl

Matrix: Solid

Analyte

Analysis Batch: 40256

Gasoline Range Organics

Analysis Batch: 40256

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

Lab Sample ID: LCS 880-40270/2-A

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEAD

# Method: 8015B NM - Diesel Range O

|         |       |           |              |         |           |       |      |       |             |  | 0.0500 4 |    |
|---------|-------|-----------|--------------|---------|-----------|-------|------|-------|-------------|--|----------|----|
| HEADE   | ER    |           |              |         |           |       |      |       |             | Job ID: 890<br>SDG: 03D                    |          | 2  |
| ige Or  | rgan  | nics (DR  | RO) (GC) (Co | ontinue | ∋d)       |       |      |       |             |  |          | 3  |
|         | МВ    | МВ        |              |         |           |       |      |       | Client Sa   | ample ID: Metho<br>Prep Type:<br>Prep Batc | Total/NA | 4  |
| Re      | esult | Qualifier | RL           |         | Unit      |       | D    | P     | repared     | Analyzed                                   | Dil Fac  |    |
| <       | <50.0 | U         | 50.0         |         | mg/K      | g     | _    | 11/23 | 3/22 08:51  | 11/23/22 08:54                             | 1        | 6  |
| <       | <50.0 | U         | 50.0         |         | mg/K      | g     |      | 11/2; | 3/22 08:51  | 11/23/22 08:54                             | 1        | 7  |
|         | MB    | МВ        |              |         |           |       |      |       |             |  |          |    |
| %Reco   |       | Qualifier | Limits       |         |           |       |      |       | repared     | Analyzed                                   | Dil Fac  | 8  |
|         | 129   |           | 70 - 130     |         |           |       |      |       | 23/22 08:51 |  | 1        |    |
|         | 140   | S1+       | 70 - 130     |         |           |       |      | 11/2: | 23/22 08:51 | 11/23/22 08:54                             | 1        | 9  |
|         |       |           |              |         |           |       | С    | lient | Sample      | ID: Lab Control<br>Prep Type:              |          | 10 |
|         |       |           |              |         |           |       |      |       |             | Prep Batc                                  |          |    |
|         |       |           | Spike        | LCS     | LCS       |       |      |       |             | %Rec                                       |          |    |
|         |       |           | Added        | Result  | Qualifier | Unit  |      | D     | %Rec        | Limits                                     |          |    |
|         |       |           | 1000         | 1088    |           | mg/Kg |      | • _   | 109         | 70 - 130                                   |          | 12 |
|         |       |           | 1000         | 1082    |           | mg/Kg |      |       | 108         | 70 - 130                                   |          | 13 |
| LCS     | LCS   |           |              |         |           |       |      |       |             |  |          |    |
| ecovery | Qual  | lifier    | Limits       |         |           |       |      |       |             |  |          |    |
| 94      |       |           | 70 - 130     |         |           |       |      |       |             |  |          |    |
| 98      |       |           | 70 - 130     |         |           |       |      |       |             |  |          |    |
|         |       |           |              |         |           | CI    | ient | Sam   | iple ID: L  | ab Control Sam                             | nple Dup |    |
|         |       |           |              |         |           |       |      |       |             | Prep Type:<br>Prep Batc                    |          |    |
|         |       |           | Spike        | LCSD    | LCSD      |       |      |       |             | %Rec                                       | RPD      |    |
|         |       |           | Added        | Result  | Qualifier | Unit  |      | D     | %Rec        | Limits RP                                  | PD Limit |    |
|         |       |           | 1000         | 993.6   |           | mg/Kg |      | • - • | 99          | 70 - 130                                   | 9 20     |    |

| Surrogate                   | %Recovery | Qualifier | L |
|-----------------------------|-----------|-----------|---|
|                             | LCS       | LCS       |   |
| C10-C28)                    |           |           |   |
| Diesel Range Organics (Over |           |           |   |
| (GRO)-C6-C10                |           |           |   |
| 5 5                         |           |           |   |

| Surrogate      | %Recovery Qualifier | Limits   |
|----------------|---------------------|----------|
| 1-Chlorooctane | 94                  | 70 _ 130 |
| o-Terphenyl    | 98                  | 70 - 130 |
|                |                     |          |

| Lab Sample ID: LCSD 880-40270/3-A<br>Matrix: Solid<br>Analysis Batch: 40256 |       |        |           | Clien | it Sam | ple ID: |          | ol Sampl<br>Type: To<br>Batch: | tal/NA |
|---|-------|--------|-----------|-------|--------|---------|----------|--------------------------------|--------|
|   | Spike | LCSD   | LCSD      |       |        |         | %Rec     |                                | RPD    |
| Analyte   | Added | Result | Qualifier | Unit  | D      | %Rec    | Limits   | RPD                            | Limit  |
| Gasoline Range Organics   | 1000  | 993.6  |           | mg/Kg |        | 99      | 70 - 130 | 9                              | 20     |
| (GRO)-C6-C10  |       |        |           |       |        |         |          |                                |        |
| Diesel Range Organics (Over   | 1000  | 923.3  |           | mg/Kg |        | 92      | 70 - 130 | 16                             | 20     |
| C10-C28)  |       |        |           |       |        |         |          |                                |        |

|                | LCSD      | LCSD      |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 81        |           | 70 - 130 |
| o-Terphenyl    | 86        |           | 70 - 130 |

| Lab Sample ID: 880-21770-A-1-E MS |
|-----------------------------------|
| Matrix: Solid                     |
| Associate Details (00000          |

| Analysis Batch: 40256                   |        |           |       |        |           |       |   |      | Pre      | p Batch: 40270 | 0 |
|---|--------|-----------|-------|--------|-----------|-------|---|------|----------|----------------|---|
|   | Sample | Sample    | Spike | MS     | MS        |       |   |      | %Rec     |                |   |
| Analyte                                 | Result | Qualifier | Added | Result | Qualifier | Unit  | D | %Rec | Limits   |                |   |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0  | U         | 999   | 1006   |           | mg/Kg |   | 98   | 70 - 130 | ·              | - |
| Diesel Range Organics (Over<br>C10-C28) | <50.0  | U         | 999   | 766.2  |           | mg/Kg |   | 77   | 70 - 130 |                |   |

|                | MS        | MS        |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 99        |           | 70 - 130 |
| o-Terphenyl    | 98        |           | 70 - 130 |

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**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

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# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Lab Sample ID: 880-21770-A-1-F                | MSD         |        |           |                      |        |           |          | Client  | Sample ID     | : Matrix Sp | ike Du  | plicate |
|---|-------------|--------|-----------|----------------------|--------|-----------|----------|---------|---------------|-------------|---------|---------|
| Matrix: Solid                                 |             |        |           |                      |        |           |          |         |               | Prep Ty     |         | -       |
| Analysis Batch: 40256                         |             |        |           |                      |        |           |          |         |               |             |         | 40270   |
| ····· <b>·</b> ······························ | Sample      | Sam    | ple       | Spike                | MSD    | MSD       |          |         |               | %Rec        |         | RPD     |
| Analyte                                       | Result      |        | •         | Added                | Result |           | Unit     |         | ) %Rec        | Limits      | RPD     | Limit   |
| Gasoline Range Organics                       | <50.0       |        |           |                      | 1034   | Quanner   |          |         | 101           | 70 - 130    | 3       | 20      |
| (GRO)-C6-C10                                  | <50.0       | U      |           | 997                  | 1034   |           | mg/Kg    |         | 101           | 70 - 130    | 3       | 20      |
| Diesel Range Organics (Over                   | <50.0       |        |           | 997                  | 774.1  |           | mg/Kg    |         | 78            | 70 - 130    | 1       | 20      |
| C10-C28)                                      | ~00.0       | 0      |           | 551                  | 114.1  |           | iiig/itg |         | 10            | 70 - 150    | '       | 20      |
| 510-020)                                      |             |        |           |                      |        |           |          |         |               |             |         |         |
|   | MSD         | MSE    | )         |                      |        |           |          |         |               |             |         |         |
| Surrogate                                     | %Recovery   | Qua    | lifier    | Limits               |        |           |          |         |               |             |         |         |
| 1-Chlorooctane                                | 100         |        |           | 70 - 130             |        |           |          |         |               |             |         |         |
| o-Terphenyl                                   | 98          |        |           | 70 - 130             |        |           |          |         |               |             |         |         |
|   |             |        |           |                      |        |           |          |         |               |             |         |         |
| Lab Sample ID: MB 880-40387/1-                | A           |        |           |                      |        |           |          |         | Client S      | ample ID: N | lethod  | Blank   |
| Matrix: Solid                                 |             |        |           |                      |        |           |          |         |               | Prep Ty     | ype: To | tal/NA  |
| Analysis Batch: 40408                         |             |        |           |                      |        |           |          |         |               | Prep        | Batch:  | 40387   |
|   |             | ΜВ     | МВ        |                      |        |           |          |         |               |             |         |         |
| Analyte                                       | R           | esult  | Qualifier |                      | RL     | Unit      |          | D       | Prepared      | Analyze     | d       | Dil Fac |
| Gasoline Range Organics                       |             | \$0.0  | U         | 5                    | 50.0   | mg/K      | g        | 11      | /28/22 09:07  | 11/28/22 1  | 3:45    | 1       |
| (GRO)-C6-C10                                  |             |        |           |                      |        | 5         | -        |         |               |             |         |         |
| Diesel Range Organics (Over                   | <           | \$0.0  | U         | 5                    | 60.0   | mg/K      | g        | 11      | /28/22 09:07  | 11/28/22 1  | 3:45    | 1       |
| C10-C28)                                      |             |        |           |                      |        |           |          |         |               |             |         |         |
| Oll Range Organics (Over C28-C36)             | <           | \$50.0 | U         | 5                    | 60.0   | mg/K      | g        | 11      | /28/22 09:07  | 11/28/22 1  | 3:45    | 1       |
|   |             | мв     | МВ        |                      |        |           |          |         |               |             |         |         |
| 0   | 0/ <b>D</b> |        |           | 1                    |        |           |          |         | Durant        | <b>A</b>    |         | D# 5    |
| Surrogate                                     | %Reco       |        | Qualifier | Limits               |        |           |          |         | Prepared      | Analyze     |         | Dil Fac |
| 1-Chlorooctane                                |             | 129    |           | 70 - 13              |        |           |          |         | /28/22 09:07  |             |         | 1       |
| p-Terphenyl                                   |             | 149    | S1+       | 70 - 13              | 0      |           |          | 11      | 1/28/22 09:07 | 11/28/22 1  | 3:45    | 1       |
|   |             |        |           |                      |        |           |          | 0       |               |             |         |         |
| Lab Sample ID: LCS 880-40387/2                | <b>:-A</b>  |        |           |                      |        |           |          | Cile    | nt Sample     | ID: Lab Co  |         |         |
| Matrix: Solid                                 |             |        |           |                      |        |           |          |         |               | Prep Ty     |         |         |
| Analysis Batch: 40408                         |             |        |           |                      |        |           |          |         |               |             | Batch:  | 40387   |
|   |             |        |           | Spike                | LCS    | LCS       |          |         |               | %Rec        |         |         |
| Analyte                                       |             |        |           | Added                | Result | Qualifier | Unit     |         | %Rec          | Limits      |         |         |
| Gasoline Range Organics                       |             |        |           | 1000                 | 898.0  |           | mg/Kg    |         | 90            | 70 - 130    | _       |         |
| (GRO)-C6-C10                                  |             |        |           |                      |        |           |          |         |               |             |         |         |
| Diesel Range Organics (Over                   |             |        |           | 1000                 | 950.0  |           | mg/Kg    |         | 95            | 70 - 130    |         |         |
| C10-C28)                                      |             |        |           |                      |        |           |          |         |               |             |         |         |
|   | LCS         | LCS    | ;         |                      |        |           |          |         |               |             |         |         |
| Surrogate                                     | %Recovery   |        |           | Limits               |        |           |          |         |               |             |         |         |
| 1-Chlorooctane                                | 129         |        |           | 70 - 130             |        |           |          |         |               |             |         |         |
| o-Terphenyl                                   | 125         |        |           | 70 - 130<br>70 - 130 |        |           |          |         |               |             |         |         |
| ,, <i></i> ,                                  | 120         |        |           | 10 - 100             |        |           |          |         |               |             |         |         |
| Lab Sample ID: LCSD 880-40387                 | //3-A       |        |           |                      |        |           | CI       | ient Sa | mple ID· I    | ab Control  | Samn    | le Dup  |
| Matrix: Solid                                 |             |        |           |                      |        |           |          |         |               | Prep Ty     |         |         |
| Analysis Batch: 40408                         |             |        |           |                      |        |           |          |         |               |             |         | 40387   |
| miaiysis Daltii. 40400                        |             |        |           | Spike                | 1.000  | LCSD      |          |         |               |             | DatCII: |         |
| A   |             |        |           | Spike                |        |           |          | -       |               | %Rec        |         | RPD     |
| Analyte                                       |             |        |           | Added                |        | Qualifier | Unit     | [       |               | Limits      | RPD     | Limit   |
| Gasoline Range Organics                       |             |        |           | 1000                 | 990.0  |           | mg/Kg    |         | 99            | 70 - 130    | 10      | 20      |
|   |             |        |           |                      |        |           |          |         |               |             |         |         |
| (GRO)-C6-C10<br>Diesel Range Organics (Over   |             |        |           | 1000                 | 919.0  |           | mg/Kg    |         | 92            | 70 - 130    | 3       | 20      |

Lab Sample ID: LCSD 880-40387/3-A

Lab Sample ID: 880-21869-A-1-F MS

Matrix: Solid

Surrogate

o-Terphenyl

1-Chlorooctane

Matrix: Solid

Analysis Batch: 40408

Analysis Batch: 40408

# **QC Sample Results**

Limits

70 - 130

70 - 130

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

LCSD LCSD %Recovery Qualifier

128

126

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 40387

Prep Batch: 40387

# 7

| 110 | 70 - 130 |
|-----|----------|
| 123 | 70 - 130 |

**Client Sample ID: Matrix Spike** 

Client Sample ID: Lab Control Sample Dup

|  | 3 |
|--|---|

|                              | Sample    | Sample    | Spike    | MS     | MS        |       |         |          | %Rec          |              |
|------------------------------|-----------|-----------|----------|--------|-----------|-------|---------|----------|---------------|--------------|
| Analyte                      | Result    | Qualifier | Added    | Result | Qualifier | Unit  | D       | %Rec     | Limits        |              |
| Gasoline Range Organics      | <50.0     | U F2      | 999      | 1131   |           | mg/Kg |         | 110      | 70 - 130      |              |
| (GRO)-C6-C10                 |           |           |          |        |           |       |         |          |               |              |
| Diesel Range Organics (Over  | <50.0     | U         | 999      | 1232   |           | mg/Kg |         | 123      | 70 - 130      |              |
| C10-C28)                     |           |           |          |        |           |       |         |          |               |              |
|                              | MS        | MS        |          |        |           |       |         |          |               |              |
| Surrogate                    | %Recovery | Qualifier | Limits   |        |           |       |         |          |               |              |
| 1-Chlorooctane               | 109       |           | 70 - 130 | _      |           |       |         |          |               |              |
| o-Terphenyl                  | 102       |           | 70 - 130 |        |           |       |         |          |               |              |
| _<br>_                       |           |           |          |        |           |       |         |          |               |              |
| Lab Sample ID: 880-21869-A-1 | -G MSD    |           |          |        |           | CI    | ient Sa | ample IC | ): Matrix Spi | ke Duplicate |
| Matrix: Solid                |           |           |          |        |           |       |         |          | Prep Ty       | pe: Total/NA |
| Analysis Batch: 40408        |           |           |          |        |           |       |         |          | Prep I        | Batch: 40387 |
|                              | 0 1       | 0         | 0        | MOD    | 1400      |       |         |          | 0/ D          |              |

| Analysis Batch: 40408                   |           |           |          |        |           |       |   |      | Prep     | Batch: | 40387 |
|---|-----------|-----------|----------|--------|-----------|-------|---|------|----------|--------|-------|
|   | Sample    | Sample    | Spike    | MSD    | MSD       |       |   |      | %Rec     |        | RPD   |
| Analyte                                 | Result    | Qualifier | Added    | Result | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0     | U F2      | 997      | 854.3  | F2        | mg/Kg |   | 83   | 70 - 130 | 28     | 20    |
| Diesel Range Organics (Over<br>C10-C28) | <50.0     | U         | 997      | 1090   |           | mg/Kg |   | 109  | 70 - 130 | 12     | 20    |
|   | MSD       | MSD       |          |        |           |       |   |      |          |        |       |
| Surrogate                               | %Recovery | Qualifier | Limits   |        |           |       |   |      |          |        |       |
| 1-Chlorooctane                          | 98        |           | 70 - 130 |        |           |       |   |      |          |        |       |
| o-Terphenyl                             | 92        |           | 70 - 130 |        |           |       |   |      |          |        |       |

# Method: 300.0 - Anions, Ion Chromatography

| Lab Sample ID: MB 880-40006/1-A<br>Matrix: Solid<br>Analysis Batch: 40248 |        |           |       |      |        |           |       |       | Client S | ample ID: Metho<br>Prep Type: |         |
|---|--------|-----------|-------|------|--------|-----------|-------|-------|----------|-------------------------------|---------|
| -   | МВ     | MB        |       |      |        |           |       |       |          |                               |         |
| Analyte   | Result | Qualifier |       | RL   |        | Unit      |       | D     | Prepared | Analyzed                      | Dil Fac |
| Chloride  | <5.00  | U         |       | 5.00 |        | mg/K      | g     |       |          | 11/23/22 05:43                | 1       |
| Lab Sample ID: LCS 880-40006/2-A  |        |           |       |      |        |           |       | Clier | t Sample | ID: Lab Control               | Sample  |
| Matrix: Solid   |        |           |       |      |        |           |       |       |          | Prep Type:                    | Soluble |
| Analysis Batch: 40248   |        |           |       |      |        |           |       |       |          |                               |         |
|   |        |           | Spike |      | LCS    | LCS       |       |       |          | %Rec                          |         |
| Analyte   |        |           | Added |      | Result | Qualifier | Unit  | D     | %Rec     | Limits                        |         |
| Chloride  |        |           | 250   |      | 264.7  |           | mg/Kg |       | 106      | 90 - 110                      |         |

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# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3509-1 SDG: 03D2057025

# Method: 300.0 - Anions, Ion Chromatography (Continued)

| Lab Sample ID: LCSD 880-40006<br>Matrix: Solid<br>Analysis Batch: 40248 | /3-A      |           |       |        |           | Clier | nt Sarr | ple ID:  | Lab Contro<br>Prep | ol Sampl<br>Type: S |         |
|---|-----------|-----------|-------|--------|-----------|-------|---------|----------|--------------------|---------------------|---------|
| Anarysis Baten. 40240   |           |           | Spike | LCSD   | LCSD      |       |         |          | %Rec               |                     | RPD     |
| Analyte   |           |           | Added | Result | Qualifier | Unit  | D       | %Rec     | Limits             | RPD                 | Limit   |
| Chloride  |           |           | 250   | 262.7  |           | mg/Kg |         | 105      | 90 - 110           | 1                   | 20      |
| -<br>Lab Sample ID: 890-3507-A-1-B M                                    | <b>NS</b> |           |       |        |           |       |         | Client   | Sample ID          | : Matrix            | Spike   |
| Matrix: Solid   |           |           |       |        |           |       |         |          | Prep               | Type: S             | oluble  |
| Analysis Batch: 40248   |           |           |       |        |           |       |         |          |                    |                     |         |
|   | Sample    | Sample    | Spike | MS     | MS        |       |         |          | %Rec               |                     |         |
| Analyte   | Result    | Qualifier | Added | Result | Qualifier | Unit  | D       | %Rec     | Limits             |                     |         |
| Chloride  | 716       | F1        | 250   | 938.8  | F1        | mg/Kg |         | 89       | 90 _ 110           |                     |         |
| -<br>Lab Sample ID: 890-3507-A-1-C M                                    | ISD       |           |       |        |           | Cli   | ent Sa  | ample IC | ): Matrix S        | oike Dup            | olicate |
| Matrix: Solid   |           |           |       |        |           |       |         |          | Prep               | Type: S             | oluble  |
| Analysis Batch: 40248   |           |           |       |        |           |       |         |          |                    |                     |         |
|   | Sample    | Sample    | Spike | MSD    | MSD       |       |         |          | %Rec               |                     | RPD     |
| Analyte   | Result    | Qualifier | Added | Result | Qualifier | Unit  | D       | %Rec     | Limits             | RPD                 | Limit   |
| Chloride  | 716       | F1        | 250   | 935.8  | F1        | mg/Kg |         | 88       | 90 - 110           | 0                   | 20      |

# **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## GC VOA

#### Analysis Batch: 40362

| Client Sample ID       | Ргер Туре  | Matrix  | Method   | Prep Batch   |
|------------------------|--|---|--|--|
| SS05A                  | Total/NA   | Solid   | 8021B  | 40434  |
| SS06A                  | Total/NA   | Solid   | 8021B  | 40434  |
| SS07A                  | Total/NA   | Solid   | 8021B  | 40434  |
| Method Blank           | Total/NA   | Solid   | 8021B  | 40407  |
| Method Blank           | Total/NA   | Solid   | 8021B  | 40434  |
| Lab Control Sample     | Total/NA   | Solid   | 8021B  | 40434  |
| Lab Control Sample Dup | Total/NA   | Solid   | 8021B  | 40434  |
| SS05A                  | Total/NA   | Solid   | 8021B  | 40434  |
| SS05A                  | Total/NA   | Solid   | 8021B  | 40434  |
|                        | SS05A<br>SS06A<br>SS07A<br>Method Blank<br>Method Blank<br>Lab Control Sample<br>Lab Control Sample Dup<br>SS05A | SS05A     Total/NA       SS06A     Total/NA       SS07A     Total/NA       Method Blank     Total/NA       Method Blank     Total/NA       Lab Control Sample     Total/NA       Lab Control Sample Dup     Total/NA       SS05A     Total/NA | SS05ATotal/NASolidSS06ATotal/NASolidSS07ATotal/NASolidMethod BlankTotal/NASolidMethod BlankTotal/NASolidLab Control SampleTotal/NASolidLab Control Sample DupTotal/NASolidSS05ATotal/NASolid | SS05ATotal/NASolid8021BSS06ATotal/NASolid8021BSS07ATotal/NASolid8021BMethod BlankTotal/NASolid8021BMethod BlankTotal/NASolid8021BLab Control SampleTotal/NASolid8021BLab Control Sample DupTotal/NASolid8021BSS05ATotal/NASolid8021B |

#### Prep Batch: 40407

| Lab Sample ID    | Client Sample ID | Ргер Туре | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-40407/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

#### Prep Batch: 40434

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |  |
|--------------------|------------------------|-----------|--------|--------|------------|--|
| 890-3509-1         | SS05A                  | Total/NA  | Solid  | 5035   |            |  |
| 890-3509-2         | SS06A                  | Total/NA  | Solid  | 5035   |            |  |
| 890-3509-3         | SS07A                  | Total/NA  | Solid  | 5035   |            |  |
| MB 880-40434/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |  |
| LCS 880-40434/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |  |
| LCSD 880-40434/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |  |
| 890-3509-1 MS      | SS05A                  | Total/NA  | Solid  | 5035   |            |  |
| 890-3509-1 MSD     | SS05A                  | Total/NA  | Solid  | 5035   |            |  |
| 890-3509-1 MSD     | 5505A                  | Iotal/NA  | Solia  | 5035   |            |  |

#### Analysis Batch: 40560

| Lab Sample ID<br>890-3509-1 | Client Sample ID<br>SS05A | Prep Type<br>Total/NA | Matrix<br>Solid | Method<br>Total BTEX | Prep Batch |
|-----------------------------|---------------------------|-----------------------|-----------------|----------------------|------------|
| 890-3509-2                  | SS06A                     | Total/NA              | Solid           | Total BTEX           |            |
| 890-3509-3                  | SS07A                     | Total/NA              | Solid           | Total BTEX           |            |

#### GC Semi VOA

#### Analysis Batch: 40256

| Lab Sample ID       | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-3509-1          | SS05A                  | Total/NA  | Solid  | 8015B NM | 40270      |
| MB 880-40270/1-A    | Method Blank           | Total/NA  | Solid  | 8015B NM | 40270      |
| LCS 880-40270/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 40270      |
| LCSD 880-40270/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 40270      |
| 880-21770-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 40270      |
| 880-21770-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 40270      |

#### Prep Batch: 40270

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 890-3509-1          | SS05A                  | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-40270/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-40270/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-40270/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-21770-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-21770-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

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Job ID: 890-3509-1

SDG: 03D2057025

# **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

# GC Semi VOA

## Prep Batch: 40387

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|-----------------------|------------------------|-----------|--------|-------------|------------|
| 890-3509-2            | SS06A                  | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3509-3            | SS07A                  | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-40387/1-A      | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-40387/2-A     | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-40387/3-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-21869-A-1-F MS    | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-21869-A-1-G MSD   | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |
| Analysis Batch: 40396 |                        |           |        |             |            |
| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
| 890-3509-1            | SS05A                  | Total/NA  | Solid  | 8015 NM     |            |
| 890-3509-2            | SS06A                  | Total/NA  | Solid  | 8015 NM     |            |
| 890-3509-3            | SS07A                  | Total/NA  | Solid  | 8015 NM     |            |
| Analysis Batch: 40408 |                        |           |        |             |            |
| Lab Sample ID         | Client Sample ID       | Ргер Туре | Matrix | Method      | Prep Batch |
| 890-3509-2            | SS06A                  | Total/NA  | Solid  | 8015B NM    | 40387      |

| 890-3509-2          | SS06A                  | Total/NA | Solid | 8015B NM | 40387 |
|---------------------|------------------------|----------|-------|----------|-------|
| 890-3509-3          | SS07A                  | Total/NA | Solid | 8015B NM | 40387 |
| MB 880-40387/1-A    | Method Blank           | Total/NA | Solid | 8015B NM | 40387 |
| LCS 880-40387/2-A   | Lab Control Sample     | Total/NA | Solid | 8015B NM | 40387 |
| LCSD 880-40387/3-A  | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 40387 |
| 880-21869-A-1-F MS  | Matrix Spike           | Total/NA | Solid | 8015B NM | 40387 |
| 880-21869-A-1-G MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 40387 |

#### HPLC/IC

#### Leach Batch: 40006

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3509-1         | SS05A                  | Soluble   | Solid  | DI Leach |            |
| 890-3509-2         | SS06A                  | Soluble   | Solid  | DI Leach |            |
| 890-3509-3         | SS07A                  | Soluble   | Solid  | DI Leach |            |
| MB 880-40006/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-40006/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-40006/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3507-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3507-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

#### Analysis Batch: 40248

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3509-1         | SS05A                  | Soluble   | Solid  | 300.0  | 40006      |
| 890-3509-2         | SS06A                  | Soluble   | Solid  | 300.0  | 40006      |
| 890-3509-3         | SS07A                  | Soluble   | Solid  | 300.0  | 40006      |
| MB 880-40006/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 40006      |
| LCS 880-40006/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 40006      |
| LCSD 880-40006/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 40006      |
| 890-3507-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 40006      |
| 890-3507-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 40006      |

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#### Job ID: 890-3509-1 SDG: 03D2057025

Project/Site: SEMU PERMIAN SOUTH HEADER

5

9

Job ID: 890-3509-1 SDG: 03D2057025

# Lab Sample ID: 890-3509-1 Matrix: Solid

Lab Sample ID: 890-3509-2

Lab Sample ID: 890-3509-3

Matrix: Solid

Matrix: Solid

Date Collected: 11/17/22 12:35 Date Received: 11/17/22 14:57

**Client Sample ID: SS05A** 

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.99 g  | 5 mL   | 40434  | 11/28/22 11:03 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 40362  | 11/28/22 23:11 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40560  | 11/29/22 09:20 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40396  | 11/28/22 09:30 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 40270  | 11/23/22 08:51 | AM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40256  | 11/23/22 19:01 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.05 g  | 50 mL  | 40006  | 11/20/22 12:14 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40248  | 11/23/22 06:23 | SMC     | EET MID |

# Client Sample ID: SS06A

# Date Collected: 11/17/22 12:30

Date Received: 11/17/22 14:57

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.98 g  | 5 mL   | 40434  | 11/28/22 11:03 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 40362  | 11/28/22 23:31 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40560  | 11/29/22 09:20 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40396  | 11/29/22 12:08 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.02 g | 10 mL  | 40387  | 11/28/22 09:07 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40408  | 11/28/22 23:18 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.99 g  | 50 mL  | 40006  | 11/20/22 12:14 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40248  | 11/23/22 06:29 | SMC     | EET MID |

#### Client Sample ID: SS07A Date Collected: 11/17/22 12:25 Date Received: 11/17/22 14:57

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.99 g  | 5 mL   | 40434  | 11/28/22 11:03 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 40362  | 11/29/22 03:37 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 40560  | 11/29/22 09:20 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 40396  | 11/29/22 12:08 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 40387  | 11/28/22 09:07 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 40408  | 11/28/22 23:40 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.02 g  | 50 mL  | 40006  | 11/20/22 12:14 | СН      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 40248  | 11/23/22 06:34 | SMC     | EET MID |

#### Laboratory References:

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

# Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Laboratory: Eurofins Midland

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

| thority                                      |             | Program                | Identification Number                        | Expiration Date         |
|--|-------------|------------------------|--|-------------------------|
| as   |             | NELAP                  | T104704400-22-24                             | 06-30-23                |
| The following analytes the agency does not o |             | ·                      | ied by the governing authority. This list ma | ay include analytes for |
| Analysis Method                              | Prep Method | Matrix                 | Analyte                                      |                         |
| Analysis Method<br>8015 NM                   | Prep Method | <u>Matrix</u><br>Solid | Analyte<br>Total TPH                         |                         |

Job ID: 890-3509-1

SDG: 03D2057025

Eurofins Carlsbad

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Job ID: 890-3509-1 SDG: 03D2057025

| 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    |
| SW846 =      | = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Mi<br>"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third E<br>= TestAmerica Laboratories, Standard Operating Procedure |          |            |
| Laboratory R | eferences:   |          |            |
| EET MID :    | = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440  |          |            |
|              |  |          |            |
|              |  |          |            |

#### Protocol References:

#### Laboratory References:

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3509-1 SDG: 03D2057025

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |    |
|---------------|------------------|--------|----------------|----------------|-------|----|
| 890-3509-1    | SS05A            | Solid  | 11/17/22 12:35 | 11/17/22 14:57 | 1     | 4  |
| 890-3509-2    | SS06A            | Solid  | 11/17/22 12:30 | 11/17/22 14:57 | 1     |    |
| 890-3509-3    | SS07A            | Solid  | 11/17/22 12:25 | 11/17/22 14:57 | 1     | 5  |
|               |                  |        |                |                |       | 6  |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       | 8  |
|               |                  |        |                |                |       | 9  |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       |    |
|               |                  |        |                |                |       | 12 |
|               |                  |        |                |                |       | 1: |
|               |                  |        |                |                |       |    |

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|  | Environment Testing   | nt lesting   | Midland, T.   | Midland, TX (432) 704-5440, San Antonio, TX (210) 509-333-                         | ttonio, TX (210) 509-3334  | Work Order No:   |  |
|--|---|--|---|--|--|--|--|
|  | Xenco   |  | EL Paso,  | EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296                             | ock, TX (806) 794-1296   |  |  |
|  |   |  | Hobbs, A  | Hobbs, NM (575) 392-7550, Cansbad, NM (575) 988-3199                               | )20, NMI (5/5) 988-3199  | www.xenco.com  | Page 2 of 1  |
| Project Manager: Had   | Hadlie Green  |  | Bill to: (If different)   | Kalei Jennings   |  | Work Order Comments  | Somments   |
|  | Ensolum, LLC  |  | Company Name:   | Ensolum, LLC   | Pro  | Program: UST/PST PRP Brownfields   | ields IRC Juperfund                                      |
|  | feld Street,  | Suite 400  | Address:  |  | Stat   | State of Project: NM   |  |
| te ZIP:  | Midland, TX 79701   |  | City, State ZIP:  |  | Rep  | Reporting: Level III Level III PST/UST   |  |
|  | 432-557-8895  | Email:   | Hgreen@ensolun  | Email: Hgreen@ensolum.com, Kjennings@ensolu.com                                    |  | Deliverables: EDD 🗌 ADaPT 💭  | Other:   |
| Name:  | SEMU Permian South Header   |  | Turn Around   |  | ANALYSIS REQUEST   | 7  | Preservative Codes                                       |
| 97   | 03D2057025  | Routine  | Rush Code   | Code   |  |  | None: NO DI Water: H <sub>2</sub> O                      |
| Project Location:  | 32.549475, -103.190427  | 127 Due Date:  |   |  |  |  | Cool: Cool MeOH: Me                                      |
| Sampler's Name:  | Conner Shore  |  | TAT starts the day received by  |  |  |  | HCL: HC HNO3: HN   |
| PO#  | 03D2057025  | the lab, if rec  |   |  |  |  | H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub> NaOH: Na |
| SAMPLE RECEIPT   | Temp Blank:   | Yes No Wet Ice:  | No<br>nete  |  |  |  | H₃PO₄: HP  |
| Samples Received Intect  |   | Thermometer ID:  | INN. AD1  |  |  |  | NaHSO4: NABIS  |
| Cooler Custody Seals:  | Yes No NIA CON  | Correction Factor:   | -2.07   |  |  |  |  |
| Sample Custody Seals:  | Yes No ( WA Ten   | Temperature Reading:   | Se AV   |  | Andread of the second s |  | Zn Acetate+NaUH: Zn                                      |
| Sample Identification  | Matrix  | Date Time<br>Sampled Sampled   | Depth Grab/ # of<br>Comp Cont   | CHLORIE  |  |  | Sample Comments  |
| SS05A  | SL 11/  | N  |   | ××   |  |  |  |
| SS06A  | SL 11/  | 11/17/2022 1230  | 1 Grab/   | 1 X X X  |  |  |  |
| SS07A  | SL 11/  | 11/17/2022 1225  | 1 Grab/ 1   | -<br>×<br>×<br>×   |  |  |  |
|  |   |  |   |  |  |  |  |
|  | 6-14  | 17   |   |  |  |  |  |
|  |   |  |   |  |  |  |  |
|  | De la   |  |   |  |  |  |  |
|  |   |  |   |  |  |  |  |
| Total 200.7 / 6010   | 200.8 / 6020:   | 8RCRA 13   | 13PPM Texas 11  | Al Sb As Ba Be B   | 3 Cd Ca Cr Co Cu Fe Pb Mg Mn Mo  | Ni K Se  | a Sr TI Sn U V Zn  |
| Circle Method(s) and Metal(s) to be analyzed   | letal(s) to be analyzed   | TCLP / S   | TCLP / SPLP 6010: 8RCRA   | Sb As Ba Be  | Cd Cr Co Cu Pb Mn Mo Ni Se Ag  | TIU  | Hg: 1631 / 245.1 / 7470 / 7471                           |
| Notice: Signature of this docun<br>of service. Eurofins Xenco will<br>of Eurofins Xenco. A minimum | nent and relinquishment of san<br>be liable only for the cost of s<br>harge of \$85.00 will be applie | nples constitutes a valid pu<br>amples and shall not assun<br>ad to each project and a cha | rrchase order from client<br>ne any responsibility for<br>arge of \$5 for each samp | company to Eurofins Xen<br>any losses or expenses in<br>le submitted to Eurofins X | Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated of Eurofins Xenco.  | s standard terms and conditions<br>circumstances beyond the control<br>nforced unless previously negotiated. |  |
| Relinguished by: (Signature)   | gnature)  | Received by: (Signature)   | ure)  | Date/Time  | Relinquished by: (Signature)   | Received by: (Signature)   | ) Date/Time  |
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13

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Chain of Custody

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3509 List Number: 1 Creator: Clifton, Cloe

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

#### Job Number: 890-3509-1 SDG Number: 03D2057025

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 2/22/2023 1:43:58 PM

Job Number: 890-3509-1 SDG Number: 03D2057025

List Source: Eurofins Midland

List Creation: 11/21/22 08:46 AM

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3509 List Number: 2 Creator: Rodriguez, Leticia

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

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

Received by OCD: 2/7/2023 10:16:33 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/21/2022 2:22:56 PM

# JOB DESCRIPTION

SEMU PERMIAN SOUTH HEADER SDG NUMBER New Mexico

# **JOB NUMBER**

890-3597-1

n: Kalei N. Marie and, Texa 12/21/2022 ESCRI SOUTH I BER Nev

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information



Received by OCD: 2/7/2023 10:16:33 AM

1

# **Eurofins Carlsbad**

Job Notes

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

# Authorization

RAMER

Generated 12/21/2022 2:22:56 PM

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

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

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|                  | Definitions/Glossory  |                    |   |
|------------------|---|--------------------|---|
|                  | Definitions/Glossary  |                    |   |
| Client: Ensolum  |   | Job ID: 890-3597-1 |   |
| Project/Site: SE | EMU PERMIAN SOUTH HEADER  | SDG: New Mexico    |   |
| Qualifiers       |   |                    | 3 |
| GC VOA           |   |                    |   |
| Qualifier        | Qualifier Description   |                    |   |
| U                | Indicates the analyte was analyzed for but not detected.  |                    |   |
| GC Semi VOA      |   |                    | 5 |
| Qualifier        | Qualifier Description   |                    |   |
| *1               | LCS/LCSD 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   |                    | 8 |
| U                | Indicates the analyte was analyzed for but not detected.  |                    |   |
| Glossary         |   |                    | Ĉ |
| 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)   |                    |   |

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

Method Detection Limit Minimum Level (Dioxin)

Most Probable Number Method Quantitation Limit

Not Calculated

Negative / Absent

Positive / Present Practical Quantitation Limit

Presumptive

Quality Control

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

MCL

MDA

MDC

MDL

ML MPN

MQL NC

ND

NEG

POS

PQL PRES

QC

RER

RPD

TEF

TEQ

TNTC

RL

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Page 131 of 222

Job ID: 890-3597-1 SDG: New Mexico

#### Job ID: 890-3597-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3597-1

#### Receipt

The samples were received on 12/7/2022 2:29 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 5.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: FS02A (890-3597-1), FS08A (890-3597-2) and FS09A (890-3597-3).

#### GC VOA

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 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

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.

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3597-1 SDG: New Mexico

Lab Sample ID: 890-3597-1

# **Client Sample ID: FS02A**

Date Collected: 12/07/22 13:00 Date Received: 12/07/22 14:29

Sample Depth: 1.5

Client: Ensolum

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

| Analyte  | Result   | Qualifier  | RL   | Unit                           | D        | Prepared                         | Analyzed   | Dil Fac      |
|--|--|--|--|--------------------------------|----------|----------------------------------|--|--------------|
| Benzene  | <0.00200   | U  | 0.00200  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| Toluene  | <0.00200   | U  | 0.00200  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| Ethylbenzene   | <0.00200   | U  | 0.00200  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| m-Xylene & p-Xylene  | <0.00399   | U  | 0.00399  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| o-Xylene   | <0.00200   | U  | 0.00200  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| Xylenes, Total   | <0.00399   | U  | 0.00399  | mg/Kg                          |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| Surrogate  | %Recovery  | Qualifier  | Limits   |                                |          | Prepared                         | Analyzed   | Dil Fac      |
| 4-Bromofluorobenzene (Surr)  | 115  |  | 70 - 130   |                                |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
|  |  |  | 70 400   |                                |          | 12/17/22 16:57                   | 12/21/22 12:40   | 1            |
| Method: TAL SOP Total BTEX -<br>Analyte  | Result   | Qualifier  | 70 - 130<br>   | Unit                           | D        | Prepared                         | Analyzed   | Dil Fac      |
| Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX  | Total BTEX Calc<br>Result<br><0.00399  | Qualifier<br>U   | <b>RL</b><br>0.00399   | Unit<br>mg/Kg                  | <u>D</u> |                                  |  | Dil Fac      |
| 1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Dies<br>Analyte                           | Total BTEX Calo<br>Result<br><0.00399<br>sel Range Organ   | Qualifier<br>U   | RL<br>0.00399  | mg/Kg                          |          | Prepared                         | Analyzed   | Dil Fac      |
| Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Dies<br>Analyte   | Total BTEX Calo<br>Result<br><0.00399<br>sel Range Organ   | Qualifier<br>U<br>ics (DRO) (f<br>Qualifier                                | <b>RL</b><br>0.00399   |                                | <u>D</u> |                                  | Analyzed   | 1            |
| Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Dies<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Die            | Total BTEX Calo<br>Result<br><0.00399<br>sel Range Organ<br>Result<br><50.0<br>esel Range Orga           | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U<br>nics (DRO)              | RL         0.00399   | mg/Kg<br>Unit<br>mg/Kg         | D        | Prepared<br>Prepared             | Analyzed<br>12/21/22 14:44<br>Analyzed<br>12/14/22 12:15             | 1<br>Dil Fac |
| Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Dies<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Die<br>Analyte | Total BTEX Calc<br>Result<br><0.00399<br>Sel Range Organ<br>Result<br><50.0<br>esel Range Orga<br>Result | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U<br>nics (DRO)<br>Qualifier | RL         0.00399         GC)         RL         50.0         (GC)         RL | mg/Kg<br>Unit<br>mg/Kg<br>Unit |          | Prepared<br>Prepared<br>Prepared | Analyzed<br>12/21/22 14:44<br>Analyzed<br>12/14/22 12:15<br>Analyzed | 1            |
| Method: TAL SOP Total BTEX -<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Dies<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Die            | Total BTEX Calo<br>Result<br><0.00399<br>sel Range Organ<br>Result<br><50.0<br>esel Range Orga           | Qualifier<br>U<br>ics (DRO) (<br>Qualifier<br>U<br>nics (DRO)<br>Qualifier | RL         0.00399   | mg/Kg<br>Unit<br>mg/Kg         | D        | Prepared<br>Prepared             | Analyzed<br>12/21/22 14:44<br>Analyzed<br>12/14/22 12:15             | 1<br>Dil Fac |

| Oll Range Organics (Over C28-C36) | <50.0 U           | 50.0       | mg/Kg | 12/12/22 11:00 | 12/13/22 17:36 | 1       |
|-----------------------------------|-------------------|------------|-------|----------------|----------------|---------|
| Surrogate                         | %Recovery Qualifi | ier Limits |       | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 109               | 70 - 130   |       | 12/12/22 11:00 | 12/13/22 17:36 | 1       |
| o-Terphenyl                       | 117               | 70 - 130   |       | 12/12/22 11:00 | 12/13/22 17:36 | 1       |

| Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble |          |        |           |      |       |   |          |                |         |  |
|--|----------|--------|-----------|------|-------|---|----------|----------------|---------|--|
|  | Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |  |
|  | Chloride | 21.6   |           | 5.05 | mg/Kg |   |          | 12/14/22 08:30 | 1       |  |

# **Client Sample ID: FS08A** Date Collected: 12/07/22 13:04 Date Received: 12/07/22 14:29

Sample Depth: 1.5

| Method: SW846 8021B - Volat | ile Organic Comp | ounds (GC | )        |       |   |                |                |         |
|-----------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00199         | U         | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| Toluene                     | <0.00199         | U         | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| Ethylbenzene                | <0.00199         | U         | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| m-Xylene & p-Xylene         | <0.00398         | U         | 0.00398  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| o-Xylene                    | <0.00199         | U         | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| Xylenes, Total              | <0.00398         | U         | 0.00398  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| Surrogate                   | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 116              |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |

Eurofins Carlsbad

Lab Sample ID: 890-3597-2

Matrix: Solid

Matrix: Solid

# **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

### **Client Sample ID: FS08A**

Date Collected: 12/07/22 13:04

Date Received: 12/07/22 14:29

Sample Depth: 1.5

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

| Surrogate                       | %Recovery           | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|---------------------------------|---------------------|-------------|----------|-------|---|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr)      | 98                  |             | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:01 | 1       |
| Method: TAL SOP Total BTE       | K - Total BTEX Cald | culation    |          |       |   |                |                |         |
| Analyte                         | Result              | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                      | <0.00398            | U           | 0.00398  | mg/Kg |   |                | 12/21/22 14:44 | 1       |
| -<br>Method: SW846 8015 NM - Di | iesel Range Organ   | ics (DRO) ( | GC)      |       |   |                |                |         |
| Analyte                         | Result              | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total TPH                       | <50.0               | U           | 50.0     | mg/Kg |   |                | 12/14/22 12:15 | 1       |
| -<br>Method: SW846 8015B NM - I | Diesel Range Orga   | nics (DRO)  | (GC)     |       |   |                |                |         |
| Analyte                         |                     | Qualifier   | RL       | Unit  | D | Prepared       | Analvzed       | Dil Fac |

| Analyte                           | Result    | Quanner   |          | onic  | <br>Troparca       | Analyzeu       | Dirrac  |   |
|-----------------------------------|-----------|-----------|----------|-------|--------------------|----------------|---------|---|
| Gasoline Range Organics           | <50.0     | U         | 50.0     | mg/Kg | <br>12/12/22 11:00 | 12/13/22 17:59 | 1       |   |
| (GRO)-C6-C10                      |           |           |          |       |                    |                |         |   |
| Diesel Range Organics (Over       | <50.0     | U *1      | 50.0     | mg/Kg | 12/12/22 11:00     | 12/13/22 17:59 | 1       | 2 |
| C10-C28)                          |           |           |          |       |                    |                |         |   |
| Oll Range Organics (Over C28-C36) | <50.0     | U         | 50.0     | mg/Kg | 12/12/22 11:00     | 12/13/22 17:59 | 1       |   |
|                                   |           |           |          |       |                    |                |         |   |
| Surrogate                         | %Recovery | Qualifier | Limits   |       | Prepared           | Analyzed       | Dil Fac |   |
| 1-Chlorooctane                    | 111       |           | 70 - 130 |       | 12/12/22 11:00     | 12/13/22 17:59 | 1       |   |
| o-Terphenyl                       | 114       |           | 70 - 130 |       | 12/12/22 11:00     | 12/13/22 17:59 | 1       |   |
|                                   |           |           |          |       |                    |                |         |   |

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

| Analyte  | Result Qualifie | r RL | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------------|------|-------|---|----------|----------------|---------|
| Chloride | 11.8            | 4.96 | mg/Kg |   |          | 12/14/22 08:50 | 1       |

#### **Client Sample ID: FS09A**

Date Collected: 12/07/22 13:07 Date Received: 12/07/22 14:29 Sample Depth: 1.5

# Lab Sample ID: 890-3597-3

Matrix: Solid

| Analyte                     | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-------------------|-------------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00199          | U           | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| Toluene                     | <0.00199          | U           | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| Ethylbenzene                | <0.00199          | U           | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| m-Xylene & p-Xylene         | <0.00398          | U           | 0.00398  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| o-Xylene                    | <0.00199          | U           | 0.00199  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| Xylenes, Total              | <0.00398          | U           | 0.00398  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| Surrogate                   | %Recovery         | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 113               |             | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| 1,4-Difluorobenzene (Surr)  | 96                |             | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:22 | 1       |
| Method: TAL SOP Total BTEX  | - Total BTEX Cald | culation    |          |       |   |                |                |         |
| Analyte                     | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                  | <0.00398          | U           | 0.00398  | mg/Kg |   |                | 12/21/22 14:44 | 1       |
| Method: SW846 8015 NM - Die | esel Range Organ  | ics (DRO) ( | GC)      |       |   |                |                |         |
| Analyte                     |                   | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |

12/14/22 12:15

Matrix: Solid

5

Job ID: 890-3597-1 SDG: New Mexico

Lab Sample ID: 890-3597-2

Total TPH

50.0

mg/Kg

<50.0 U

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3597-1 SDG: New Mexico

Matrix: Solid

5

Lab Sample ID: 890-3597-3

# Client Sample ID: FS09A

Date Collected: 12/07/22 13:07 Date Received: 12/07/22 14:29

Sample Depth: 1.5

Client: Ensolum

| Analyte                                 | Result          | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------------|-------------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0           | U           | 50.0     | mg/Kg |   | 12/12/22 11:00 | 12/13/22 18:21 | 1       |
| Diesel Range Organics (Over<br>C10-C28) | <50.0           | U *1        | 50.0     | mg/Kg |   | 12/12/22 11:00 | 12/13/22 18:21 | 1       |
| Oll Range Organics (Over C28-C36)       | <50.0           | U           | 50.0     | mg/Kg |   | 12/12/22 11:00 | 12/13/22 18:21 | 1       |
| Surrogate                               | %Recovery       | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          |                 |             | 70 - 130 |       |   | 12/12/22 11:00 | 12/13/22 18:21 | 1       |
| o-Terphenyl                             | 111             |             | 70 - 130 |       |   | 12/12/22 11:00 | 12/13/22 18:21 | 1       |
| -                                       |                 | aranhy S    | oluble   |       |   |                |                |         |
| Method: MCAWW 300.0 - Anions            | s, ion Chromato | yrapny - Su |          |       |   |                |                |         |
| Method: MCAWW 300.0 - Anions<br>Analyte |                 | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3597-1 SDG: New Mexico

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

#### Matrix: Solid

Client: Ensolum

| -                  |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |    |
|--------------------|------------------------|----------|----------|--|----|
|                    |                        | BFB1     | DFBZ1    |  | ï  |
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |    |
| 890-3596-A-1-C MS  | Matrix Spike           | 108      | 97       |  | ÷, |
| 890-3596-A-1-D MSD | Matrix Spike Duplicate | 103      | 95       |  |    |
| 890-3597-1         | FS02A                  | 115      | 96       |  | 1  |
| 890-3597-2         | FS08A                  | 116      | 98       |  |    |
| 390-3597-3         | FS09A                  | 113      | 96       |  |    |
| _CS 880-42102/1-A  | Lab Control Sample     | 104      | 86       |  |    |
| _CSD 880-42102/2-A | Lab Control Sample Dup | 96       | 95       |  |    |
| MB 880-42102/5-A   | Method Blank           | 104      | 87       |  |    |
| Surrogate Legend   |                        |          |          |  |    |

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

#### Matrix: Solid

| _                   |                        |          |          |
|---------------------|------------------------|----------|----------|
|                     |                        | 1CO1     | OTPH1    |
| Lab Sample ID       | Client Sample ID       | (70-130) | (70-130) |
| 880-22478-A-1-E MS  | Matrix Spike           | 125      | 104      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | 127      | 106      |
| 890-3597-1          | FS02A                  | 109      | 117      |
| 890-3597-2          | FS08A                  | 111      | 114      |
| 890-3597-3          | FS09A                  | 110      | 111      |
| LCS 880-41625/2-A   | Lab Control Sample     | 165 S1+  | 162 S1+  |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | 127      | 128      |
| MB 880-41625/1-A    | Method Blank           | 148 S1+  | 209 S1+  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

Lab Sample ID: MB 880-42102/5-A

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Matrix: Solid               |           |           |          |       |   |                | Prep Type: 1   | Fotal/NA        |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|-----------------|
| Analysis Batch: 42367       |           |           |          |       |   |                | Prep Batch     | n: <b>42102</b> |
|                             | MB        | MB        |          |       |   |                |                |                 |
| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac         |
| Benzene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
|                             | МВ        | МВ        |          |       |   |                |                |                 |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac         |
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| 1,4-Difluorobenzene (Surr)  | 87        |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |

#### Lab Sample ID: LCS 880-42102/1-A Matrix: Solid

#### Analysis Batch: 42367

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.09547 |           | mg/Kg |   | 95   | 70 - 130 |  |
| Toluene             | 0.100 | 0.09588 |           | mg/Kg |   | 96   | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.09711 |           | mg/Kg |   | 97   | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.2098  |           | mg/Kg |   | 105  | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.1046  |           | mg/Kg |   | 105  | 70 - 130 |  |

|                             | LCS       | LCS       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 86        |           | 70 - 130 |

#### Lab Sample ID: LCSD 880-42102/2-A

#### Matrix: Solid

| Analysis Batch: 42367 |       |         |           |       |   |      | Prep     | Batch: | 42102 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.09980 |           | mg/Kg |   | 100  | 70 - 130 | 4      | 35    |
| Toluene               | 0.100 | 0.09557 |           | mg/Kg |   | 96   | 70 - 130 | 0      | 35    |
| Ethylbenzene          | 0.100 | 0.09201 |           | mg/Kg |   | 92   | 70 - 130 | 5      | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1929  |           | mg/Kg |   | 96   | 70 - 130 | 8      | 35    |
| o-Xylene              | 0.100 | 0.09532 |           | mg/Kg |   | 95   | 70 - 130 | 9      | 35    |
|                       |       |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 96        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95        |           | 70 - 130 |

# Lab Sample ID: 890-3596-A-1-C MS

# Matrix: Solid

| Analysis Batch: 42367 |          |           |       |         |           |       |   |      | Prep     | Batch: 42102 |
|-----------------------|----------|-----------|-------|---------|-----------|-------|---|------|----------|--------------|
|                       | Sample   | Sample    | Spike | MS      | MS        |       |   |      | %Rec     |              |
| Analyte               | Result   | Qualifier | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |              |
| Benzene               | <0.00201 | U         | 0.100 | 0.08527 |           | mg/Kg |   | 85   | 70 - 130 |              |
| Toluene               | <0.00201 | U         | 0.100 | 0.07828 |           | mg/Kg |   | 78   | 70 - 130 |              |

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 42102

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Page 137 of 222

| Lab Sample ID: 890-3596-A-1-C          | MS           |      |                  |           |      |       |           |       |          |       | Client S   | Sample ID  |          |         |
|--|--------------|------|------------------|-----------|------|-------|-----------|-------|----------|-------|------------|------------|----------|---------|
| Aatrix: Solid                          |              |      |                  |           |      |       |           |       |          |       |            | Prep T     | ype: To  | tal/NA  |
| nalysis Batch: 42367                   |              |      |                  |           |      |       |           |       |          |       |            | Prep       | Batch:   | 42102   |
|  | Sample       | Sam  | ple              | Spike     |      | MS    | MS        |       |          |       |            | %Rec       |          |         |
| nalyte                                 | Result       | Qual | ifier            | Added     | Re   | esult | Qualifier | Unit  |          | D     | %Rec       | Limits     |          |         |
| thylbenzene                            | <0.00201     | U    |                  | 0.100     | 0.07 | 7303  |           | mg/Kg |          |       | 73         | 70 - 130   |          |         |
| -Xylene & p-Xylene                     | <0.00402     | U    |                  | 0.201     | 0.4  | 1563  |           | mg/Kg |          |       | 78         | 70 - 130   |          |         |
| Xylene                                 | <0.00201     | U    |                  | 0.100     | 0.07 | 7955  |           | mg/Kg |          |       | 79         | 70 - 130   |          |         |
|  | MS           | MS   |                  |           |      |       |           |       |          |       |            |            |          |         |
| urrogate                               |              | Qual | lifior           | Limits    |      |       |           |       |          |       |            |            |          |         |
| Bromofluorobenzene (Surr)              | 108          | Quai |                  | 70 - 130  |      |       |           |       |          |       |            |            |          |         |
| ,4-Difluorobenzene (Surr)              | 97           |      |                  | 70 - 130  |      |       |           |       |          |       |            |            |          |         |
|  | 01           |      |                  | 101100    |      |       |           |       |          |       |            |            |          |         |
| ab Sample ID: 890-3596-A-1-D           | MSD          |      |                  |           |      |       |           |       | Client   | t Sa  | mple ID:   | Matrix Sp  | oike Dup | olicate |
| Aatrix: Solid                          |              |      |                  |           |      |       |           |       |          |       | -          |            | уре: То  |         |
| nalysis Batch: 42367                   |              |      |                  |           |      |       |           |       |          |       |            |            | Batch:   |         |
|  | Sample       | Sam  | ple              | Spike     | 1    | MSD   | MSD       |       |          |       |            | %Rec       |          | RPD     |
| nalyte                                 | Result       | Qual | ifier            | Added     | Re   | esult | Qualifier | Unit  |          | D     | %Rec       | Limits     | RPD      | Limit   |
| enzene                                 | <0.00201     | U    |                  | 0.0990    | 0.08 | 8417  |           | mg/Kg |          |       | 85         | 70 - 130   | 1        | 35      |
| bluene                                 | <0.00201     | U    |                  | 0.0990    | 0.07 | 7691  |           | mg/Kg |          |       | 78         | 70 - 130   | 2        | 35      |
| thylbenzene                            | <0.00201     | U    |                  | 0.0990    | 0.07 | 7004  |           | mg/Kg |          |       | 71         | 70 - 130   | 4        | 35      |
| -Xylene & p-Xylene                     | <0.00402     | U    |                  | 0.198     | 0.1  | 1496  |           | mg/Kg |          |       | 76         | 70 - 130   | 4        | 35      |
| Xylene                                 | <0.00201     | U    |                  | 0.0990    | 0.07 | 7544  |           | mg/Kg |          |       | 76         | 70 - 130   | 5        | 35      |
|  | MSD          | MSD  |                  |           |      |       |           |       |          |       |            |            |          |         |
| urrogate                               |              | Qual |                  | Limits    |      |       |           |       |          |       |            |            |          |         |
| Bromofluorobenzene (Surr)              | 103          | Quui |                  | 70 - 130  |      |       |           |       |          |       |            |            |          |         |
| .4-Difluorobenzene (Surr)              | .00          |      |                  | 70 - 130  |      |       |           |       |          |       |            |            |          |         |
|  |              |      |                  |           |      |       |           |       |          |       |            |            |          |         |
| ethod: 8015B NM - Diesel               | Range Or     | gan  | ics (DR          | (GC) (GC) |      |       |           |       |          |       |            |            |          |         |
|  |              |      |                  |           |      |       |           |       |          |       |            |            |          |         |
| ab Sample ID: MB 880-41625/1           | 1-A          |      |                  |           |      |       |           |       |          | . (   | Client Sa  | ample ID:  |          |         |
| Aatrix: Solid                          |              |      |                  |           |      |       |           |       |          |       |            |            | ype: To  |         |
| Analysis Batch: 41693                  |              |      |                  |           |      |       |           |       |          |       |            | Prep       | Batch:   | 41625   |
|  |              | MB   |                  |           |      |       | 11        |       |          |       |            | A          |          | D!!     |
| nalyte                                 |              |      | Qualifier        |           | RL   |       | Unit      | ~     | <u>D</u> |       | epared     | Analyz     |          | Dil Fac |
| asoline Range Organics<br>GRO)-C6-C10  | <            | 50.0 | U                |           | 50.0 |       | mg/Kg     | y     |          | 12/12 | /22 11:00  | 12/13/22 ( | 00.00    | 1       |
| iesel Range Organics (Over             | <            | 50.0 | U                |           | 50.0 |       | mg/Kg     | q     |          | 12/12 | /22 11:00  | 12/13/22   | 08:06    | 1       |
| :10-C28)                               |              | -    |                  |           |      |       | 0.14      | -     |          |       |            |            |          |         |
| II Range Organics (Over C28-C36)       | <            | 50.0 | U                |           | 50.0 |       | mg/Kg     | g     |          | 12/12 | /22 11:00  | 12/13/22   | 08:06    | 1       |
|  |              | ΜВ   | MR               |           |      |       |           |       |          |       |            |            |          |         |
| urrogate                               | %Reco        |      | wıd<br>Qualifier | Lim       | its  |       |           |       |          | Pr    | epared     | Analyz     | ed       | Dil Fac |
| Chlorooctane                           |              | -    | S1+              |           |      |       |           |       |          |       | 2/22 11:00 | 12/13/22   |          | 1       |
| -Terphenyl                             |              |      | S1+              | 70 -      |      |       |           |       |          |       | 2/22 11:00 | 12/13/22   |          | 1       |
| ······································ |              |      | 2.               | , 0 -     |      |       |           |       |          | , £   |            | , 0, 22    |          | ,       |
| ab Sample ID: LCS 880-41625            | / <b>2-A</b> |      |                  |           |      |       |           |       | Cli      | ent   | Sample     | ID: Lab Co | ontrol S | ample   |
| latrix: Solid                          |              |      |                  |           |      |       |           |       |          |       | - T        | Prep T     | ype: To  | tal/NA  |
| analysis Batch: 41693                  |              |      |                  |           |      |       |           |       |          |       |            | Prep       | Batch:   | 41625   |
|  |              |      |                  | Spike     |      | LCS   | LCS       |       |          |       |            | %Rec       |          |         |
| nalyte                                 |              |      |                  | Added     | Re   | esult | Qualifier | Unit  |          | D     | %Rec       | Limits     |          |         |
| analyte                                |              | _    |                  |           |      |       |           |       |          |       |            |            |          |         |

Lab Sample ID: LCS 880-41625/2-A

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

SDG: New Mexico

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 41625

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

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| Client | Sample ID | : Matrix | Spike  |
|--------|-----------|----------|--------|
|        | Drop 7    | Sunas Ta | 4-1/11 |

**Client Sample ID: Matrix Spike Duplicate** 

| Prep | Type: Total/NA |  |
|------|----------------|--|
| _    |                |  |

Prep Type: Total/NA

|                | LCS       | LCS       |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 165       | S1+       | 70 - 130 |
| o-Terphenyl    | 162       | S1+       | 70 - 130 |

### Analysis Batch: 41693

Matrix: Solid

| Analysis Batch: 41693                   |       |        |           |       |   |      | Prep     | Batch: | 41625 |
|---|-------|--------|-----------|-------|---|------|----------|--------|-------|
|   | Spike | LCSD   | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte                                 | Added | Result | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Gasoline Range Organics<br>(GRO)-C6-C10 | 1000  | 922.3  |           | mg/Kg |   | 92   | 70 - 130 | 3      | 20    |
| Diesel Range Organics (Over<br>C10-C28) | 1000  | 925.4  | *1        | mg/Kg |   | 93   | 70 - 130 | 24     | 20    |

|                | LCSD      | LCSD      |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 127       |           | 70 - 130 |
| o-Terphenyl    | 128       |           | 70 - 130 |

# Lab Sample ID: 880-22478-A-1-E MS

| Matrix: Solid                           |        |           |       |        |           |       |   |      | Prep T   | ype: Total/NA |
|---|--------|-----------|-------|--------|-----------|-------|---|------|----------|---------------|
| Analysis Batch: 41693                   |        |           |       |        |           |       |   |      | Prep     | Batch: 41625  |
|   | Sample | Sample    | Spike | MS     | MS        |       |   |      | %Rec     |               |
| Analyte                                 | Result | Qualifier | Added | Result | Qualifier | Unit  | D | %Rec | Limits   |               |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0  | U         | 999   | 1156   |           | mg/Kg |   | 113  | 70 - 130 |               |
| Diesel Range Organics (Over<br>C10-C28) | <50.0  | U *1      | 999   | 1148   |           | mg/Kg |   | 113  | 70 - 130 |               |

|                | MS        | MS        |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 125       |           | 70 - 130 |
| o-Terphenyl    | 104       |           | 70 - 130 |

#### Lab Sample ID: 880-22478-A-1-F MSD Matrix: Solid

#### Analysis Batch: 41693

| Analysis Batch: 41693                   |        |           |       |        |           |       |   |      | Prep     | Batch: | 41625 |
|---|--------|-----------|-------|--------|-----------|-------|---|------|----------|--------|-------|
|   | Sample | Sample    | Spike | MSD    | MSD       |       |   |      | %Rec     |        | RPD   |
| Analyte                                 | Result | Qualifier | Added | Result | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <50.0  | U         | 997   | 1120   |           | mg/Kg |   | 109  | 70 - 130 | 3      | 20    |
| Diesel Range Organics (Over C10-C28)    | <50.0  | U *1      | 997   | 1190   |           | mg/Kg |   | 117  | 70 - 130 | 4      | 20    |
|   | MSD    | MSD       |       |        |           |       |   |      |          |        |       |

|                | 1100 110     | 0              |
|----------------|--------------|----------------|
| Surrogate      | %Recovery Qu | alifier Limits |
| 1-Chlorooctane | 127          | 70 - 130       |
| o-Terphenyl    | 106          | 70 - 130       |

# **QC Sample Results**

Job ID: 890-3597-1 SDG: New Mexico

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

# Method: 300.0 - Anions, Ion Chromatography

| Lab Sample ID: MB 880-41471/1-A  |        |          |          |       |      |        |           |       |          | Client   | Sample ID    | Method    | Blank   |
|----------------------------------|--------|----------|----------|-------|------|--------|-----------|-------|----------|----------|--------------|-----------|---------|
| Matrix: Solid                    |        |          |          |       |      |        |           |       |          |          | Prej         | o Type: S | oluble  |
| Analysis Batch: 41738            |        |          |          |       |      |        |           |       |          |          |              |           |         |
|                                  |        | MB M     | В        |       |      |        |           |       |          |          |              |           |         |
| Analyte                          | R      | esult Q  | ualifier |       | RL   |        | Uni       | t     | <u>D</u> | Prepared | Anal         | /zed      | Dil Fac |
| Chloride                         | <      | <5.00 U  |          |       | 5.00 |        | mg        | /Kg   |          |          | 12/14/2      | 2 08:09   | 1       |
| Lab Sample ID: LCS 880-41471/2-A |        |          |          |       |      |        |           |       | Clie     | nt Samp  | le ID: Lab ( | Control S | ample   |
| Matrix: Solid                    |        |          |          |       |      |        |           |       |          |          | Pre          | o Type: S | oluble  |
| Analysis Batch: 41738            |        |          |          |       |      |        |           |       |          |          |              |           |         |
|                                  |        |          |          | Spike |      | LCS    | LCS       |       |          |          | %Rec         |           |         |
| Analyte                          |        |          | <u> </u> | Added |      |        | Qualifier | Unit  | 0        |          | Limits       |           |         |
| Chloride                         |        |          |          | 250   |      | 254.3  |           | mg/Kg |          | 102      | 90 - 110     |           |         |
| Lab Sample ID: LCSD 880-41471/3- | A      |          |          |       |      |        |           | CI    | ient Sa  | mple ID  | : Lab Conti  | ol Samp   | le Dur  |
| Matrix: Solid                    |        |          |          |       |      |        |           |       |          |          | Pre          | o Type: S | oluble  |
| Analysis Batch: 41738            |        |          |          |       |      |        |           |       |          |          |              |           |         |
|                                  |        |          |          | Spike |      | LCSD   | LCSD      |       |          |          | %Rec         |           | RPD     |
| Analyte                          |        |          |          | Added |      | Result | Qualifier | Unit  | D        | %Rec     | Limits       | RPD       | Limi    |
| Chloride                         |        |          |          | 250   |      | 268.2  |           | mg/Kg |          | 107      | 90 - 110     | 5         | 20      |
| Lab Sample ID: 890-3597-1 MS     |        |          |          |       |      |        |           |       |          |          | Client Sa    | nple ID:  | FS02A   |
| Matrix: Solid                    |        |          |          |       |      |        |           |       |          |          | Pre          | o Type: S | oluble  |
| Analysis Batch: 41738            |        |          |          |       |      |        |           |       |          |          |              |           |         |
|                                  | Sample | Sample   |          | Spike |      | MS     | MS        |       |          |          | %Rec         |           |         |
| Analyte                          | Result | Qualifie | r        | Added |      | Result | Qualifier | Unit  | D        | %Rec     | Limits       |           |         |
| Chloride                         | 21.6   |          |          | 253   |      | 261.3  |           | mg/Kg |          | 95       | 90 - 110     |           |         |
| Lab Sample ID: 890-3597-1 MSD    |        |          |          |       |      |        |           |       |          |          | Client Sa    | nple ID:  | FS02A   |
| Matrix: Solid                    |        |          |          |       |      |        |           |       |          |          |              | o Type: S |         |
| Analysis Batch: 41738            |        |          |          |       |      |        |           |       |          |          |              |           |         |
|                                  | Sample | Sample   |          | Spike |      | MSD    | MSD       |       |          |          | %Rec         |           | RPD     |
|                                  |        |          |          |       |      |        |           |       |          |          |              |           |         |
| Analyte                          | Result | Qualifie | r        | Added |      | Result | Qualifier | Unit  | D        | %Rec     | Limits       | RPD       | Limit   |

# **QC** Association Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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Job ID: 890-3597-1 SDG: New Mexico

# **GC VOA**

# Prep Batch: 42102

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3597-1         | FS02A                  | Total/NA  | Solid  | 5035   |            |
| 890-3597-2         | FS08A                  | Total/NA  | Solid  | 5035   |            |
| 890-3597-3         | FS09A                  | Total/NA  | Solid  | 5035   |            |
| MB 880-42102/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-42102/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-42102/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3596-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3596-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 42367

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method | Pren Batch |    |
|-----------------------|------------------------|-----------|--------|--------|------------|----|
| Analysis Batch: 42426 |                        |           |        |        |            |    |
| 890-3596-A-1-D MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 42102      | 13 |
| 890-3596-A-1-C MS     | Matrix Spike           | Total/NA  | Solid  | 8021B  | 42102      | 12 |
| LCSD 880-42102/2-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 42102      |    |
| LCS 880-42102/1-A     | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 42102      |    |
| MB 880-42102/5-A      | Method Blank           | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3597-3            | FS09A                  | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3597-2            | FS08A                  | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3597-1            | FS02A                  | Total/NA  | Solid  | 8021B  | 42102      |    |
| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |    |
| Analysis Batch: 42367 |                        |           |        |        |            | 9  |
| 890-3596-A-1-D MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            | 8  |
| 890-3596-A-1-C MS     | Matrix Spike           | Total/NA  | Solid  | 5035   |            |    |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3597-1    | FS02A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3597-2    | FS08A            | Total/NA  | Solid  | Total BTEX |            |
| 890-3597-3    | FS09A            | Total/NA  | Solid  | Total BTEX |            |
|               |                  |           |        |            |            |

# GC Semi VOA

#### Prep Batch: 41625

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 890-3597-1          | FS02A                  | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3597-2          | FS08A                  | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3597-3          | FS09A                  | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

#### Analysis Batch: 41693

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-3597-1          | FS02A                  | Total/NA  | Solid  | 8015B NM | 41625      |
| 890-3597-2          | FS08A                  | Total/NA  | Solid  | 8015B NM | 41625      |
| 890-3597-3          | FS09A                  | Total/NA  | Solid  | 8015B NM | 41625      |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015B NM | 41625      |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41625      |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41625      |

# **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## GC Semi VOA

## Analysis Batch: 41811

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3597-1    | FS02A            | Total/NA  | Solid  | 8015 NM |            |
| 890-3597-2    | FS08A            | Total/NA  | Solid  | 8015 NM |            |
| 890-3597-3    | FS09A            | Total/NA  | Solid  | 8015 NM |            |
|               |                  |           |        |         |            |

# HPLC/IC

#### Leach Batch: 41471

| Lab Sample ID<br>890-3597-1 | Client Sample ID       | Prep Type<br>Soluble | Matrix<br>Solid | Method   | Prep Batch | 8  |
|-----------------------------|------------------------|----------------------|-----------------|----------|------------|----|
| 890-3597-2                  | FS02A<br>FS08A         | Soluble              | Solid           | DI Leach |            |    |
| 890-3597-3                  | FS09A                  | Soluble              | Solid           | DI Leach |            | 9  |
| MB 880-41471/1-A            | Method Blank           | Soluble              | Solid           | DI Leach |            |    |
| LCS 880-41471/2-A           | Lab Control Sample     | Soluble              | Solid           | DI Leach |            |    |
| LCSD 880-41471/3-A          | Lab Control Sample Dup | Soluble              | Solid           | DI Leach |            |    |
| 890-3597-1 MS               | FS02A                  | Soluble              | Solid           | DI Leach |            |    |
| 890-3597-1 MSD              | FS02A                  | Soluble              | Solid           | DI Leach |            |    |
| Analysis Batch: 41738       |                        |                      |                 |          |            |    |
| Lab Sample ID               | Client Sample ID       | Prep Type            | Matrix          | Method   | Prep Batch | 13 |
| 890-3597-1                  | FS02A                  | Soluble              | Solid           | 300.0    | 41471      |    |

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3597-1         | FS02A                  | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-2         | FS08A                  | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-3         | FS09A                  | Soluble   | Solid  | 300.0  | 41471      |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41471      |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41471      |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-1 MS      | FS02A                  | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-1 MSD     | FS02A                  | Soluble   | Solid  | 300.0  | 41471      |

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Job ID: 890-3597-1

SDG: New Mexico

Client Sample ID: FS02A Date Collected: 12/07/22 13:00

Date Received: 12/07/22 14:29

Project/Site: SEMU PERMIAN SOUTH HEADER

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Leach

Prep

Batch

Method

5035

8021B

Total BTEX

8015NM Prep

8015B NM

DI Leach

300.0

8015 NM

Client: Ensolum

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Soluble

Soluble

Initial

Amount

5.01 g

5 mL

10.01 g

1 uL

4.95 g

Final

Amount

5 mL

5 mL

10 mL

1 uL

50 mL

Batch

42102

42367

42426

41811

41625

41693

41471

41738

Number

Dil

1

1

1

1

1

Factor

Run

Job ID: 890-3597-1 SDG: New Mexico

# Lab Sample ID: 890-3597-1

Analyst

MNR

SM

SM

SM

DM

SM

ĸs

СН

Lab Sample ID: 890-3597-2

Lab Sample ID: 890-3597-3

Prepared

or Analyzed

12/17/22 16:57

12/21/22 12:40

12/21/22 14:44

12/14/22 12:15

12/12/22 11:00

12/13/22 17:36

12/09/22 13:16

12/14/22 08:30

Matrix: Solid

Lab

EET MID

Matrix: Solid

Matrix: Solid

#### Client Sample ID: FS08A Date Collected: 12/07/22 13:04

Date Received: 12/07/22 14:29

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 42102  | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 42367  | 12/21/22 13:01 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 42426  | 12/21/22 14:44 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 41811  | 12/14/22 12:15 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 41625  | 12/12/22 11:00 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 41693  | 12/13/22 17:59 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.04 g  | 50 mL  | 41471  | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 41738  | 12/14/22 08:50 | CH      | EET MID |

#### Client Sample ID: FS09A Date Collected: 12/07/22 13:07

#### Date Received: 12/07/22 14:29

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.02 g  | 5 mL   | 42102  | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 42367  | 12/21/22 13:22 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 42426  | 12/21/22 14:44 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 41811  | 12/14/22 12:15 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.00 g | 10 mL  | 41625  | 12/12/22 11:00 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 41693  | 12/13/22 18:21 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.01 g  | 50 mL  | 41471  | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 41738  | 12/14/22 08:57 | CH      | EET MID |

#### Laboratory References:

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

Released to Imaging: 2/22/2023 1:43:58 PM

# Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Laboratory: Eurofins Midland

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

| uthority   |                                     | rogram                          | Identification Number                        | Expiration Date         |
|--|-------------------------------------|---------------------------------|--|-------------------------|
| xas  | N                                   | ELAP                            | T104704400-22-25                             | 06-30-23                |
| The following analytes                               | are included in this report, b      | ut the laboratory is not certif | ied by the governing authority. This list ma | ay include analytes for |
| the agency does not of<br>Analysis Method            |                                     | Matrix                          | Analyte                                      |                         |
| the agency does not of<br>Analysis Method<br>8015 NM | ffer certification .<br>Prep Method | Matrix<br>Solid                 | Analyte<br>Total TPH                         |                         |

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Project/Site: SEMU PERMIAN SOUTH HEADER

#### Job ID: 890-3597-1 SDG: New Mexico

| 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:

Client: Ensolum

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
Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER Job ID: 890-3597-1 SDG: New Mexico

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3597-1    | FS02A            | Solid  | 12/07/22 13:00 | 12/07/22 14:29 | 1.5   |
| 890-3597-2    | FS08A            | Solid  | 12/07/22 13:04 | 12/07/22 14:29 | 1.5   |
| 890-3597-3    | FS09A            | Solid  | 12/07/22 13:07 | 12/07/22 14:29 | 1.5   |
|               |                  |        |                |                |       |

| C                                 | Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated. Relinquished by: (Signature) Received by: | Total 200.7 / 6010       200.8 / 6020:       8RCRA 13PPM Texas 11 A         Circle Method(s) and Metal(s) to be analyzed       TCLP / SPLP 6010:       8RCRA |  |  | A St 12-7-12 130 7 1. | ESO2A SL 12-7-12 1300 1.5 | Sample Identification Matrix Date Time Depth | Corrected Temperature:   | Yes No  | 9             | SAMPLE RECEIPT Temp Blank: Yes No Wet Ice: Yes | PO #: 0 302057025 the tab, if received by | NEW MEXICO      | T: 0302057025 ARoutine              | Name: SEMU PERMIAN SOUTH HEADER TURN | 432-557-8895 Email:                       | e ZIP: Midland, TX 79701 | 601 N. Marienfeld Street, Suite 400 | Ensolum, LLC                                 | Project Manager: HADLE GREEN Bill to: (if different) | Xenco  |
|-----------------------------------|---|--|--|--|-----------------------|---------------------------|--|--------------------------|---|---------------|--|---|-----------------|-------------------------------------|--------------------------------------|---|--------------------------|-------------------------------------|--|--|--|
| PONT CC.L.CI                      | order from client company to Eurofina Xenco, its affiliates and subcom<br>sponsibility for any losses or expenses incurred by the client if such<br>5 for each sample submitted to Eurofina Xenco, but not analyzed. The<br>Date/Time Relinquished by: (*   | Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg<br>10: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se  |  |  |                       |                           | Comp Cont TP<br>BT                           | H<br>EX                  | )<br>)<br>)<br>)<br>)<br>)<br>)<br>)<br>)     | Parai         | rete   | ers                                       | DHY             | Code                                | ANALYS                               | Hgreen@ensolum.com; Kjennings@ensolum.com | ate ZIP:                 |                                     |  | f different) Kalei Jennings                          | Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300<br>Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334<br>EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296<br>Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 |
| Revised Date: 08252020 Rev 2020 2 | ntractors. It assigns standard terms and conditions<br>1 tosses are due to circumstances beyond the control<br>1 ses terms will be enforced unless previously negotiated.<br>(Signature) Received by: (Signature) Date/Time   | Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn U V<br>n Mo Ni Se Ag Ti U Hg: 1631/245.1/7470/7471  |  |  |                       | 3- 40                     | Sample Comments                              | NaOH+Ascorbic Acid: SAPC | 890-3597 Chain of Custody Zn Acetate+NaOH: Zn | NaHSO4: NABIS | H <sub>3</sub> PO <sub>4</sub> : HP            | 2   | HCL: HC HNO: HN | None: NO DI Water: H <sub>2</sub> O | IS REQUEST Preservative Codes        | Deliverables: EDD M ADaPT C Other:        | evel III [               | State of Project: NM                | Program: UST/PST PRP Brownfields RC uperfund | Work Order Comments                                  | Work Order No:   |

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11 12 13

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3597 List Number: 1 Creator: Clifton, Cloe

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

Job Number: 890-3597-1 SDG Number: New Mexico

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 2/22/2023 1:43:58 PM

Job Number: 890-3597-1 SDG Number: New Mexico

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

### Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3597 List Number: 2 Creator: Rodriguez, Leticia

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

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

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Received by OCD: 2/7/2023 10:16:33 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Kalei Jennings Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 12/21/2022 2:47:54 PM

## **JOB DESCRIPTION**

SEMU PERMIAN SOUTH HEADER SDG NUMBER 03D2057025

## **JOB NUMBER**

890-3599-1

**) FOR** ennings Insolum nfeld St. uite 400 s 79701 2:47:54 PM

601 N. Midland herated 12/2 B DES IAN SOU JUMBEF

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information



Received by OCD: 2/7/2023 10:16:33 AM

## **Eurofins Carlsbad**

**Job Notes** 

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

## Authorization

RAMER

Generated 12/21/2022 2:47:54 PM

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

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

Laboratory Job ID: 890-3599-1 SDG: 03D2057025

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|-------------------------------------|---|-------------|----|
|                                     | Definitions/Glossary  |             |    |
| Client: Ensolum<br>Project/Site: SE | Job ID: 890EMU PERMIAN SOUTH HEADERSDG: 03D2SDG: 03D2   |             |    |
| Qualifiers                          |   |             | 3  |
| GC VOA<br>Qualifier                 | Qualifier Description   |             | 2  |
| U                                   | Indicates the analyte was analyzed for but not detected.  |             |    |
| GC Semi VOA<br>Qualifier            | Qualifier Description   |             | 5  |
| 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<br>Qualifier                | Qualifier Description   |             | 8  |
| U                                   | Indicates the analyte was analyzed for but not detected.  |             |    |
| Glossary                            |   |             | g  |
| 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)

Minimum Detectable Concentration (Radiochemistry) MDC

- MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number
- Method Quantitation Limit MQL NC Not Calculated
- ND Not Detected at the reporting limit (or MDL or EDL if shown)
- NEG Negative / Absent
- POS Positive / Present
- Practical Quantitation Limit PQL 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

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Job ID: 890-3599-1 SDG: 03D2057025

#### Job ID: 890-3599-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3599-1

#### Receipt

The samples were received on 12/7/2022 2:29 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 5.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS08 (890-3599-1), SS09 (890-3599-2), SS10 (890-3599-3) and SS11 (890-3599-4).

#### GC VOA

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 880-41575 and analytical batch 880-41559 was outside the upper control limits.

Method 8015MOD NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-41575/2-A) and (LCSD 880-41575/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SS09 (890-3599-2). 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 / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-41575 and analytical batch 880-41559 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD NM: The method blank for preparation batch 880-41575 and analytical batch 880-41559 contained Diesel Range Organics (Over C10-C28) and Oll Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

#### HPLC/IC

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

Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3599-1 SDG: 03D2057025

Lab Sample ID: 890-3599-1

### **Client Sample ID: SS08**

Date Collected: 12/07/22 13:20 Date Received: 12/07/22 14:29

Sample Depth: 0.5

Client: Ensolum

| Analyte                     | Result            | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00198          | U         | 0.00198  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| Toluene                     | <0.00198          | U         | 0.00198  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| Ethylbenzene                | <0.00198          | U         | 0.00198  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| m-Xylene & p-Xylene         | <0.00397          | U         | 0.00397  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| o-Xylene                    | <0.00198          | U         | 0.00198  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| Xylenes, Total              | <0.00397          | U         | 0.00397  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| Surrogate                   | %Recovery         | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 121               |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| 1,4-Difluorobenzene (Surr)  | 97                |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 13:42 | 1       |
| Method: TAL SOP Total BTEX  | - Total BTEX Cald | culation  |          |       |   |                |                |         |
| Analyte                     | Result            | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                  | < 0.00397         | U         | 0.00397  | mg/Kg |   |                | 12/21/22 14:44 | 1       |

#### Method: SW846 8015 NM - Dies Analyte Result Qualifier Dil Fac RL Unit D Prepared Analyzed Total TPH <50.0 U 50.0 mg/Kg 12/13/22 10:27

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

| Analyte                           | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics           | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 03:44 | 1       |
| (GRO)-C6-C10                      |           |           |          |       |   |                |                |         |
| Diesel Range Organics (Over       | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 03:44 | 1       |
| C10-C28)                          |           |           |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 03:44 | 1       |
|                                   |           |           |          |       |   |                |                |         |
| Surrogate                         | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 107       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 03:44 | 1       |
| o-Terphenyl                       | 117       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 03:44 | 1       |
|                                   |           |           |          |       |   |                |                |         |

| Method: MCAWW 300.0 - Anions, lo | on Chromatog | graphy - Sol | uble |       |   |          |                |         |
|----------------------------------|--------------|--------------|------|-------|---|----------|----------------|---------|
| Analyte                          | Result (     | Qualifier    | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Chloride                         | 13.6         |              | 5.03 | mg/Kg |   |          | 12/14/22 09:03 | 1       |

## **Client Sample ID: SS09** Date Collected: 12/07/22 13:23 Date Received: 12/07/22 14:29

Sample Depth: 0.5

| Method: SW846 8021B - Volati | ile Organic Comp | ounds (GC | )        |       |   |                |                |         |
|------------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                      | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                      | <0.00200         | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| Toluene                      | <0.00200         | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| Ethylbenzene                 | <0.00200         | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| m-Xylene & p-Xylene          | <0.00399         | U         | 0.00399  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| o-Xylene                     | <0.00200         | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| Xylenes, Total               | <0.00399         | U         | 0.00399  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |
| Surrogate                    | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)  | 118              |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 14:03 | 1       |

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Lab Sample ID: 890-3599-2

Matrix: Solid

Matrix: Solid

5

## Released to Imaging: 2/22/2023 1:43:58 PM

### **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### **Client Sample ID: SS09**

Date Collected: 12/07/22 13:23

Date Received: 12/07/22 14:29

Sample Depth: 0.5

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

| Surrogate<br>1,4-Difluorobenzene (Surr) | %Recovery<br>92 | Qualifier   | Limits<br>70 - 130 |       |   | Prepared | Analyzed       | Dil Fac |
|---|-----------------|-------------|--------------------|-------|---|----------|----------------|---------|
| Method: TAL SOP Total BTEX - To         | tal BTEX Calo   | culation    |                    |       |   |          |                |         |
| Analyte                                 | Result          | Qualifier   | RL                 | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Total BTEX                              | <0.00399        | U           | 0.00399            | mg/Kg |   |          | 12/21/22 14:44 | 1       |
| Method: SW846 8015 NM - Diesel          | Range Organ     | ics (DRO) ( | GC)                |       |   |          |                |         |
| Analyte                                 | Result          | Qualifier   | RL                 | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Total TPH                               | <50.0           | U           | 50.0               | mg/Kg |   |          | 12/13/22 10:27 | 1       |

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

| Analyte                           | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics           | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:06 | 1       |
| (GRO)-C6-C10                      |           |           |          |       |   |                |                |         |
| Diesel Range Organics (Over       | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:06 | 1       |
| C10-C28)                          |           |           |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:06 | 1       |
| Surrogate                         | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 122       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:06 | 1       |
| o-Terphenyl                       | 135       | S1+       | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:06 | 1       |

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

| Analyte  | Result Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|------------------|------|-------|---|----------|----------------|---------|
| Chloride | 15.1             | 4.97 | mg/Kg |   |          | 12/14/22 09:10 | 1       |

#### **Client Sample ID: SS10**

Date Collected: 12/07/22 13:27 Date Received: 12/07/22 14:29 Sample Depth: 0.5

#### Method: SW846 8021B - Volatile Organic Compounds (GC) Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 12/17/22 16:57 12/21/22 14:24 Toluene <0.00200 U 0.00200 12/17/22 16:57 12/21/22 14:24 mg/Kg 1 Ethylbenzene <0.00200 U 0.00200 mg/Kg 12/17/22 16:57 12/21/22 14:24 <0.00401 U 0.00401 m-Xylene & p-Xylene 12/17/22 16:57 12/21/22 14:24 mg/Kg 1 o-Xylene <0.00200 U 0.00200 mg/Kg 12/17/22 16:57 12/21/22 14:24 1 Xylenes, Total <0.00401 U 0.00401 mg/Kg 12/17/22 16:57 12/21/22 14:24 1 Surrogate %Recovery Qualifier Limits Prepared Analvzed Dil Fac 70 - 130 12/17/22 16:57 4-Bromofluorobenzene (Surr) 123 12/21/22 14:24 1 1,4-Difluorobenzene (Surr) 94 70 - 130 12/17/22 16:57 12/21/22 14:24 1 Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte **Result Qualifier** RL D Analyzed Unit Prepared Dil Fac Total BTEX <0.00401 U 0.00401 12/21/22 15:37 mg/Kg 1 Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/13/22 10:27 | 1       |

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Matrix: Solid

5

Job ID: 890-3599-1 SDG: 03D2057025

Lab Sample ID: 890-3599-2

Lab Sample ID: 890-3599-3

Matrix: Solid

Project/Site: SEMU PERMIAN SOUTH HEADER

### **Client Sample Results**

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Matrix: Solid

Job ID: 890-3599-1 SDG: 03D2057025

Lab Sample ID: 890-3599-3

## Client Sample ID: SS10

Date Collected: 12/07/22 13:27 Date Received: 12/07/22 14:29

Sample Depth: 0.5

Client: Ensolum

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

| Analyte                           | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics           | <49.9     | U         | 49.9     | mg/Kg | _ | 12/12/22 09:30 | 12/13/22 04:28 | 1       |
| (GRO)-C6-C10                      |           |           |          |       |   |                |                |         |
| Diesel Range Organics (Over       | <49.9     | U         | 49.9     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:28 | 1       |
| C10-C28)                          |           |           |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <49.9     | U         | 49.9     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:28 | 1       |
| Surrogate                         | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 110       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:28 | 1       |
| o-Terphenyl                       | 123       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:28 | 1       |

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

| Analyte  | Result Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|------------------|------|-------|---|----------|----------------|---------|
| Chloride | 15.3             | 4.96 | mg/Kg |   |          | 12/14/22 09:30 | 1       |

#### Client Sample ID: SS11

Date Collected: 12/07/22 13:31 Date Received: 12/07/22 14:29

#### Sample Depth: 0.5

| Analyte                     | Result            | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00202          | U         | 0.00202  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| Toluene                     | <0.00202          | U         | 0.00202  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| Ethylbenzene                | <0.00202          | U         | 0.00202  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| m-Xylene & p-Xylene         | <0.00403          | U         | 0.00403  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| o-Xylene                    | <0.00202          | U         | 0.00202  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| Xylenes, Total              | <0.00403          | U         | 0.00403  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| Surrogate                   | %Recovery         | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 122               |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| 1,4-Difluorobenzene (Surr)  | 95                |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 14:45 | 1       |
| Method: TAL SOP Total BTEX  | - Total BTEX Cald | culation  |          |       |   |                |                |         |
| Analyte                     | Result            | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                  | < 0.00403         |           | 0.00403  | mg/Kg |   |                | 12/21/22 15:37 | 1       |

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

| Analyte                             | Result     | Qualifier  | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-------------------------------------|------------|------------|------|-------|---|----------|----------------|---------|
| Total TPH                           | <49.9      | U          | 49.9 | mg/Kg |   |          | 12/13/22 10:27 | 1       |
| <br>Method: SW846 8015B NM - Diesel | Range Orga | nics (DRO) | (GC) |       |   |          |                |         |
|                                     |            | · · · · ·  |      |       | _ |          |                |         |

|   | Analyte                           | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
|   | Gasoline Range Organics           | <49.9     | U         | 49.9     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:50 | 1       |
|   | (GRO)-C6-C10                      |           |           |          |       |   |                |                |         |
|   | Diesel Range Organics (Over       | <49.9     | U         | 49.9     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:50 | 1       |
|   | C10-C28)                          |           |           |          |       |   |                |                |         |
|   | Oll Range Organics (Over C28-C36) | <49.9     | U         | 49.9     | mg/Kg |   | 12/12/22 09:30 | 12/13/22 04:50 | 1       |
|   |                                   |           |           |          |       |   |                |                |         |
|   | Surrogate                         | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|   | 1-Chlorooctane                    | 99        |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:50 | 1       |
|   | o-Terphenyl                       | 110       |           | 70 - 130 |       |   | 12/12/22 09:30 | 12/13/22 04:50 | 1       |
| ļ |                                   |           |           |          |       |   |                |                |         |

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## **Client Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## Client Sample ID: SS11

Lab Sample ID: 890-3599-4 Date Collected: 12/07/22 13:31 Date Received: 12/07/22 14:29 Sample Depth: 0.5 

| Method: MCAWW 300.0 - Anions, I | on Chromato | graphy - So | luble |       |   |          |                |         | 5 |
|---------------------------------|-------------|-------------|-------|-------|---|----------|----------------|---------|---|
| Analyte                         | Result      | Qualifier   | RL    | Unit  | D | Prepared | Analyzed       | Dil Fac |   |
| Chloride                        | 14.3        |             | 4.96  | mg/Kg |   |          | 12/14/22 09:36 | 1       |   |

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Job ID: 890-3599-1 SDG: 03D2057025 Matrix: Solid 5

## **Surrogate Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| -                  |                        |          |          |
|--------------------|------------------------|----------|----------|
|                    |                        | BFB1     | DFBZ1    |
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |
| 890-3596-A-1-C MS  | Matrix Spike           | 108      | 97       |
| 890-3596-A-1-D MSD | Matrix Spike Duplicate | 103      | 95       |
| 890-3599-1         | SS08                   | 121      | 97       |
| 890-3599-2         | SS09                   | 118      | 92       |
| 890-3599-3         | SS10                   | 123      | 94       |
| 890-3599-4         | SS11                   | 122      | 95       |
| LCS 880-42102/1-A  | Lab Control Sample     | 104      | 86       |
| LCSD 880-42102/2-A | Lab Control Sample Dup | 96       | 95       |
| MB 880-42102/5-A   | Method Blank           | 104      | 87       |
|                    |                        |          |          |

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

| -                  |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |
|--------------------|------------------------|----------|----------|--|
|                    |                        | 1CO1     | OTPH1    |  |
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |
| 890-3599-1         | SS08                   | 107      | 117      |  |
| 890-3599-2         | SS09                   | 122      | 135 S1+  |  |
| 890-3599-3         | SS10                   | 110      | 123      |  |
| 890-3599-4         | SS11                   | 99       | 110      |  |
| 890-3613-A-1-E MS  | Matrix Spike           | 116      | 117      |  |
| 890-3613-A-1-F MSD | Matrix Spike Duplicate | 99       | 99       |  |
| LCS 880-41575/2-A  | Lab Control Sample     | 133 S1+  | 159 S1+  |  |
| LCSD 880-41575/3-A | Lab Control Sample Dup | 131 S1+  | 156 S1+  |  |
| MB 880-41575/1-A   | Method Blank           | 140 S1+  | 210 S1+  |  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Job ID: 890-3599-1 SDG: 03D2057025

Prep Type: Total/NA

5 6

13

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Lab Sample ID: MB 880-42102/5-A

### **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| Matrix: Solid               |           |           |          |       |   |                | Prep Type: 1   | fotal/NA        |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|-----------------|
| Analysis Batch: 42367       |           |           |          |       |   |                | Prep Batch     | n: <b>42102</b> |
|                             | MB        | MB        |          |       |   |                |                |                 |
| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac         |
| Benzene                     | < 0.00200 | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
|                             | МВ        | МВ        |          |       |   |                |                |                 |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac         |
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |
| 1,4-Difluorobenzene (Surr)  | 87        |           | 70 - 130 |       |   | 12/17/22 16:57 | 12/21/22 11:37 | 1               |

#### Lab Sample ID: LCS 880-42102/1-A Matrix: Solid

#### Analysis Batch: 42367

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.09547 |           | mg/Kg |   | 95   | 70 - 130 |  |
| Toluene             | 0.100 | 0.09588 |           | mg/Kg |   | 96   | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.09711 |           | mg/Kg |   | 97   | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.2098  |           | mg/Kg |   | 105  | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.1046  |           | mg/Kg |   | 105  | 70 - 130 |  |

|                             | LCS       | LCS       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 86        |           | 70 - 130 |

#### Lab Sample ID: LCSD 880-42102/2-A

#### Matrix: Solid

| Analysis Batch: 42367 |       |         |           |       |   |      | Prep     | Batch: | 42102 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.09980 |           | mg/Kg |   | 100  | 70 - 130 | 4      | 35    |
| Toluene               | 0.100 | 0.09557 |           | mg/Kg |   | 96   | 70 - 130 | 0      | 35    |
| Ethylbenzene          | 0.100 | 0.09201 |           | mg/Kg |   | 92   | 70 - 130 | 5      | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1929  |           | mg/Kg |   | 96   | 70 - 130 | 8      | 35    |
| o-Xylene              | 0.100 | 0.09532 |           | mg/Kg |   | 95   | 70 - 130 | 9      | 35    |
|                       |       |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 96        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95        |           | 70 - 130 |

## Lab Sample ID: 890-3596-A-1-C MS

## Matrix: Solid

| Analysis Batch: 42367 |           |           |       |         |           |       |   |      | Prep E   | Batch: 42102 |
|-----------------------|-----------|-----------|-------|---------|-----------|-------|---|------|----------|--------------|
|                       | Sample    | Sample    | Spike | MS      | MS        |       |   |      | %Rec     |              |
| Analyte               | Result    | Qualifier | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |              |
| Benzene               | < 0.00201 | U         | 0.100 | 0.08527 |           | mg/Kg |   | 85   | 70 - 130 |              |
| Toluene               | <0.00201  | U         | 0.100 | 0.07828 |           | mg/Kg |   | 78   | 70 - 130 |              |

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

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Job ID: 890-3599-1 SDG: 03D2057025

**Client Sample ID: Method Blank** 

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#### Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 42102

Lab Sample ID: 890-3596-A-1-C MS

Matrix: Solid

Analyte

o-Xylene

Surrogate

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 42367

## **QC Sample Results**

MS MS

0.07303

0.1563

0.07955

**Result Qualifier** 

Unit

mg/Kg

mg/Kg

mg/Kg

Spike

Added

0.100

0.201

0.100

Limits 70 - 130

70 - 130

70 - 130

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

Sample Sample

MS MS

Qualifier

<0.00201 U

<0.00402 U

<0.00201 U

108

97

95

%Recovery

Result Qualifier

Prep Type: Total/NA

Prep Batch: 42102

**Client Sample ID: Matrix Spike** 

%Rec

Limits

70 - 130

70 - 130

70 - 130

%Rec

73

78

79

D

| 5 |
|---|
|   |
| 7 |
| - |
| ð |
| 9 |
|   |

#### **Client Sample ID: Matrix Spike Duplicate** Prep Type: Total/NA

Matrix: Solid Analysis Batch: 42367

1,4-Difluorobenzene (Surr)

Lab Sample ID: 890-3596-A-1-D MSD

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

| Analysis Batch: 42367       |           |           |          |         |           |       |   |      | Prep     | Batch: | 42102 |
|-----------------------------|-----------|-----------|----------|---------|-----------|-------|---|------|----------|--------|-------|
| _                           | Sample    | Sample    | Spike    | MSD     | MSD       |       |   |      | %Rec     |        | RPD   |
| Analyte                     | Result    | Qualifier | Added    | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene                     | <0.00201  | U         | 0.0990   | 0.08417 |           | mg/Kg |   | 85   | 70 - 130 | 1      | 35    |
| Toluene                     | <0.00201  | U         | 0.0990   | 0.07691 |           | mg/Kg |   | 78   | 70 - 130 | 2      | 35    |
| Ethylbenzene                | <0.00201  | U         | 0.0990   | 0.07004 |           | mg/Kg |   | 71   | 70 - 130 | 4      | 35    |
| m-Xylene & p-Xylene         | <0.00402  | U         | 0.198    | 0.1496  |           | mg/Kg |   | 76   | 70 - 130 | 4      | 35    |
| o-Xylene                    | <0.00201  | U         | 0.0990   | 0.07544 |           | mg/Kg |   | 76   | 70 - 130 | 5      | 35    |
|                             | MSD       | MSD       |          |         |           |       |   |      |          |        |       |
| Surrogate                   | %Recovery | Qualifier | Limits   |         |           |       |   |      |          |        |       |
| 4-Bromofluorobenzene (Surr) |           |           | 70 - 130 |         |           |       |   |      |          |        |       |

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

| Lab Sample ID: MB 880-41575/1-A<br>Matrix: Solid<br>Analysis Batch: 41559 | <b>X</b>  |           |          |       |   | Client Sa       | mple ID: Metho<br>Prep Type: 1<br>Prep Batch | Total/NA |
|---|-----------|-----------|----------|-------|---|-----------------|--|----------|
|   | MB        | MB        |          |       |   |                 |  |          |
| Analyte   | Result    | Qualifier | RL       | Unit  | D | Prepared        | Analyzed                                     | Dil Fac  |
| Gasoline Range Organics<br>(GRO)-C6-C10                                   | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30  | 12/12/22 19:41                               | 1        |
| Diesel Range Organics (Over<br>C10-C28)                                   | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30  | 12/12/22 19:41                               | 1        |
| Oll Range Organics (Over C28-C36)   | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 09:30  | 12/12/22 19:41                               | 1        |
|   | MB        | МВ        |          |       |   |                 |  |          |
| Surrogate   | %Recovery | Qualifier | Limits   |       |   | Prepared        | Analyzed                                     | Dil Fac  |
| 1-Chlorooctane  | 140       | S1+       | 70 - 130 |       |   | 12/12/22 09:30  | 12/12/22 19:41                               | 1        |
| o-Terphenyl   | 210       | S1+       | 70 - 130 |       |   | 12/12/22 09:30  | 12/12/22 19:41                               | 1        |
| Lab Sample ID: LCS 880-41575/2-   | Α         |           |          |       | c | Client Sample I | D: Lab Control                               | Sample   |

#### Lab Sample ID: LCS 880-41575/2-A Matrix: Solid Analysis Ratch: 41559

| Analysis Batch: 41559       |       |        |           |       |   |      | Prep     | Batch: 41575 |
|-----------------------------|-------|--------|-----------|-------|---|------|----------|--------------|
|                             | Spike | LCS    | LCS       |       |   |      | %Rec     |              |
| Analyte                     | Added | Result | Qualifier | Unit  | D | %Rec | Limits   |              |
| Gasoline Range Organics     | 1000  | 929.8  |           | mg/Kg |   | 93   | 70 - 130 |              |
| (GRO)-C6-C10                |       |        |           |       |   |      |          |              |
| Diesel Range Organics (Over | 1000  | 882.7  |           | mg/Kg |   | 88   | 70 - 130 |              |
| C10-C28)                    |       |        |           |       |   |      |          |              |

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Prep Type: Total/NA

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## **QC Sample Results**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

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

| -   | 575/2-A  |   |   |   |                               |                                       | Client   | t Sample                                    | ID: Lab Co   |                                    |  |
|---|--|---|---|---|-------------------------------|---------------------------------------|----------|---|--|------------------------------------|--|
| Matrix: Solid   |  |   |   |   |                               |                                       |          |   | Prep 1   | Type: To                           | tal/NA   |
| Analysis Batch: 41559   |  |   |   |   |                               |                                       |          |   | Prep   | Batch:                             | 4157   |
|   | LCS  | LCS   |   |   |                               |                                       |          |   |  |                                    |  |
| Surrogate   |  | Qualifier   | Limits  |   |                               |                                       |          |   |  |                                    |  |
| 1-Chlorooctane  |  | S1+   | 70 - 130  |   |                               |                                       |          |   |  |                                    |  |
| o-Terphenyl   |  | S1+   | 70 - 130  |   |                               |                                       |          |   |  |                                    |  |
|   |  |   |   |   |                               |                                       |          |   |  |                                    |  |
| Lab Sample ID: LCSD 880-41  | 1575/3-A   |   |   |   |                               | Clier                                 | nt San   | nple ID: I                                  | Lab Contro   | Sampl                              | e Du   |
| Matrix: Solid   |  |   |   |   |                               |                                       |          |   |  | Type: To                           |  |
| Analysis Batch: 41559   |  |   |   |   |                               |                                       |          |   |  | Batch:                             |  |
| -   |  |   | Spike   | LCSD  | LCSD                          |                                       |          |   | %Rec   |                                    | RP   |
| Analyte   |  |   | Added   | Result  | Qualifier                     | Unit                                  | D        | %Rec  | Limits   | RPD                                | Lim  |
| Gasoline Range Organics   |  |   | 1000  | 807.2   |                               | mg/Kg                                 |          | 81  | 70 - 130   | 14                                 | 20   |
| (GRO)-C6-C10  |  |   |   |   |                               |                                       |          |   |  |                                    |  |
| Diesel Range Organics (Over   |  |   | 1000  | 871.3   |                               | mg/Kg                                 |          | 87  | 70 - 130   | 1                                  | 2  |
| C10-C28)  |  |   |   |   |                               |                                       |          |   |  |                                    |  |
|   | LCSD   | LCSD  |   |   |                               |                                       |          |   |  |                                    |  |
| Surrogate   | %Recovery  | Qualifier   | Limits  |   |                               |                                       |          |   |  |                                    |  |
| 1-Chlorooctane  |  | S1+   | 70 - 130  |   |                               |                                       |          |   |  |                                    |  |
| o-Terphenyl   |  | S1+   | 70 - 130  |   |                               |                                       |          |   |  |                                    |  |
|   |  |   |   |   |                               |                                       |          |   | Dress  | Detah                              |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>GRO)-C6-C10<br>Diesel Range Organics (Over   |  | Qualifier<br>U F2   | Spike<br>Added<br>999   |   | MS<br>Qualifier               | – <mark>Unit</mark><br>mg/Kg<br>mg/Kg | <u>D</u> | <b>%Rec</b><br>128                          | Prep<br>%Rec<br>Limits<br>70 - 130<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over  | <b>Result</b> <50.0  | Qualifier<br>U F2   | Added   | <b>Result</b><br>1283   |                               | mg/Kg                                 | <u>D</u> | 128   | %Rec<br>Limits<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over  | <b>Result</b> <50.0  | Qualifier<br>U F2<br>U  | Added   | <b>Result</b><br>1283   |                               | mg/Kg                                 | <u>D</u> | 128   | %Rec<br>Limits<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)  |  | Qualifier<br>U F2<br>U  | Added   | <b>Result</b><br>1283   |                               | mg/Kg                                 | <u>D</u> | 128   | %Rec<br>Limits<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate   | Result<br><50.0<br><50.0<br>MS   | Qualifier<br>U F2<br>U  | Added   | <b>Result</b><br>1283   |                               | mg/Kg                                 | D_       | 128   | %Rec<br>Limits<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane   | Result           <50.0   | Qualifier<br>U F2<br>U  | Added<br>999<br>999<br>Limits   | <b>Result</b><br>1283   |                               | mg/Kg                                 | <u> </u> | 128   | %Rec<br>Limits<br>70 - 130   | Batch:                             |  |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane   | Result           <50.0   | Qualifier<br>U F2<br>U  | Added<br>999<br>999<br><u>Limits</u><br>70 - 130  | <b>Result</b><br>1283   |                               | mg/Kg                                 |          | 128   | %Rec           Limits           70 - 130           70 - 130  |                                    | 4157   |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl  | Result           <50.0   | Qualifier<br>U F2<br>U  | Added<br>999<br>999<br><u>Limits</u><br>70 - 130  | <b>Result</b><br>1283   |                               | mg/Kg                                 |          | 128   | %Rec<br>Limits<br>70 - 130   |                                    | 4157   |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl<br>Lab Sample ID: 890-3613-A   | Result           <50.0   | Qualifier<br>U F2<br>U  | Added<br>999<br>999<br><u>Limits</u><br>70 - 130  | <b>Result</b><br>1283   |                               | mg/Kg                                 |          | 128   | %Rec<br>Limits<br>70 - 130<br>70 - 130<br>20 - 130   |                                    | olicat   |
| Matrix: Solid<br>Analysis Batch: 41559<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl<br>Lab Sample ID: 890-3613-A<br>Matrix: Solid<br>Analysis Batch: 41559                                   | Result           <50.0   | Qualifier<br>U F2<br>U  | Added<br>999<br>999<br><u>Limits</u><br>70 - 130  | <b>Result</b><br>1283   |                               | mg/Kg                                 |          | 128   | %Rec           Limits           70 - 130           70 - 130           70 - 130           9: Matrix Sp           Prep 1                                       |                                    | olicate<br>tal/N/                                    |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl<br>Lab Sample ID: 890-3613-A-'<br>Matrix: Solid  | Result           <50.0   | Qualifier<br>U F2<br>U<br>MS<br>Qualifier                           | Added<br>999<br>999<br><u>Limits</u><br>70 - 130  | Result<br>1283<br>1279  |                               | mg/Kg                                 |          | 128   | %Rec           Limits           70 - 130           70 - 130           70 - 130           9: Matrix Sp           Prep 1                                       | Dike Dup                           | 4157   |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>p-Terphenyl<br>Lab Sample ID: 890-3613-A-<br>Matrix: Solid<br>Analysis Batch: 41559  | Result           <50.0   | Qualifier<br>U F2<br>U<br>MS<br>Qualifier<br>Sample<br>Qualifier    | Added<br>999<br>999<br><u>Limits</u><br>70 - 130<br>70 - 130<br>70 - 130                          | Result<br>1283<br>1279<br>MSD<br>Result   | Qualifier<br>MSD<br>Qualifier | mg/Kg                                 |          | 128   | %Rec           Limits           70 - 130           70 - 130           70 - 130           9: Matrix Sp           Prep 1           Prep 1                      | Dike Dup                           | 4157<br>blicati<br>tal/N/<br>4157<br>RPI             |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>p-Terphenyl<br>Lab Sample ID: 890-3613-A<br>Matrix: Solid<br>Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics   | Result<br><50.0<br><50.0<br>MS<br>%Recovery<br>116<br>117<br>1-F MSD<br>Sample | Qualifier<br>U F2<br>U<br>MS<br>Qualifier<br>Sample<br>Qualifier    | Added<br>999<br>999<br><u>Limits</u><br>70 - 130<br>70 - 130<br>Spike                             | Result<br>1283<br>1279<br>MSD   | Qualifier<br>MSD<br>Qualifier | mg/Kg<br>mg/Kg<br>Cl                  | ient S   | 128<br>128                                  | %Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130<br>9: Matrix Sp<br>Prep 1<br>Prep 3<br>%Rec   | Dike Dup<br>Type: To<br>Batch:     | 4157<br>blicat<br>tal/N,<br>4157<br>RP<br>Lim        |
| Analysis Batch: 41559 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3613-A Matrix: Solid Analysis Batch: 41559 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over | Result           <50.0   | Qualifier<br>U F2<br>U<br>MS<br>Qualifier<br>Qualifier<br>U F2      | Added<br>999<br>999<br><u>Limits</u><br>70 - 130<br>70 - 130<br>70 - 130                          | Result<br>1283<br>1279<br>MSD<br>Result   | Qualifier<br>MSD<br>Qualifier | mg/Kg<br>mg/Kg<br>Cl                  | ient S   | 128<br>128<br>ample ID                      | %Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130<br>9: Matrix Sp<br>Prep 1<br>Prep 1<br>Prep<br>%Rec<br>Limits   | Dike Dup<br>Type: To<br>Batch:<br> | 4157<br>blicate<br>tal/N/<br>4157<br>RPI<br>Lim<br>2 |
| Analysis Batch: 41559 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Surrogate 1-Chlorooctane o-Terphenyl Lab Sample ID: 890-3613-A Matrix: Solid Analysis Batch: 41559 Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over | Result           <50.0   | Qualifier<br>U F2<br>U<br>MS<br>Qualifier<br>Qualifier<br>U F2<br>U | Added<br>999<br>999<br><u>Limits</u><br>70 - 130<br>70 - 130<br>70 - 130<br>Spike<br>Added<br>997 | Result           1283           1279           MSD           Result           971.7 | Qualifier<br>MSD<br>Qualifier | mg/Kg<br>mg/Kg<br>Cl<br>Unit<br>mg/Kg | ient S   | 128<br>128<br>ample IC<br><u>%Rec</u><br>97 | %Rec           Limits           70 - 130           70 - 130           70 - 130           9: Matrix Sp<br>Prep 1<br>Prep<br>%Rec<br>Limits           70 - 130 | Dike Dup<br>Type: To<br>Batch:<br> | 4157<br>blicate<br>tal/N/<br>4157                    |
| Analysis Batch: 41559<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl<br>Lab Sample ID: 890-3613-A-'<br>Matrix: Solid  | Result           <50.0   | Qualifier<br>U F2<br>U<br>MS<br>Qualifier<br>Qualifier<br>U F2<br>U | Added<br>999<br>999<br><u>Limits</u><br>70 - 130<br>70 - 130<br>70 - 130<br>Spike<br>Added<br>997 | Result           1283           1279           MSD           Result           971.7 | Qualifier<br>MSD<br>Qualifier | mg/Kg<br>mg/Kg<br>Cl<br>Unit<br>mg/Kg | ient S   | 128<br>128<br>ample IC<br><u>%Rec</u><br>97 | %Rec           Limits           70 - 130           70 - 130           70 - 130           9: Matrix Sp<br>Prep 1<br>Prep<br>%Rec<br>Limits           70 - 130 | Dike Dup<br>Type: To<br>Batch:<br> | 4157<br>blicate<br>tal/N/<br>4157<br>RPI<br>Lim<br>2 |

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99

o-Terphenyl

70 \_ 130

## **QC Sample Results**

Job ID: 890-3599-1 SDG: 03D2057025

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## Method: 300.0 - Anions, Ion Chromatography

| Lab Sample ID: MB 880-41471/1-A  |        |         |           |       |      |        |           |       |        |      | Client S  | ample ID:  | Method    | Blank   |
|----------------------------------|--------|---------|-----------|-------|------|--------|-----------|-------|--------|------|-----------|------------|-----------|---------|
| Matrix: Solid                    |        |         |           |       |      |        |           |       |        |      |           | Prep       | Type: S   | oluble  |
| Analysis Batch: 41738            |        |         |           |       |      |        |           |       |        |      |           |            |           |         |
|                                  |        | MB N    | MB        |       |      |        |           |       |        |      |           |            |           |         |
| Analyte                          |        |         | Qualifier |       | RL   |        | Un        | -     | D      | Pr   | repared   | Analy      |           | Dil Fac |
| Chloride                         | <      | <5.00 l | U         |       | 5.00 |        | mg        | /Kg   |        |      |           | 12/14/22   | 08:09     | 1       |
| Lab Sample ID: LCS 880-41471/2-A |        |         |           |       |      |        |           |       | Cli    | ent  | Sample    | ID: Lab C  | ontrol S  | ample   |
| Matrix: Solid                    |        |         |           |       |      |        |           |       |        |      |           | Prep       | Type: S   | oluble  |
| Analysis Batch: 41738            |        |         |           |       |      |        |           |       |        |      |           |            |           |         |
|                                  |        |         |           | Spike |      | LCS    | LCS       |       |        |      |           | %Rec       |           |         |
| Analyte                          |        |         |           | Added |      |        | Qualifier | Unit  |        | D    | %Rec      | Limits     |           |         |
| Chloride                         |        |         |           | 250   |      | 254.3  |           | mg/Kg |        |      | 102       | 90 - 110   |           |         |
| Lab Sample ID: LCSD 880-41471/3- | Α      |         |           |       |      |        |           | СІ    | ient S | am   | ple ID: I | Lab Contro | ol Sampl  | le Dup  |
| Matrix: Solid                    |        |         |           |       |      |        |           |       |        |      |           | Prep       | Type: S   | oluble  |
| Analysis Batch: 41738            |        |         |           |       |      |        |           |       |        |      |           |            |           |         |
|                                  |        |         |           | Spike |      | LCSD   | LCSD      |       |        |      |           | %Rec       |           | RPD     |
| Analyte                          |        |         |           | Added |      | Result | Qualifier | Unit  |        | D    | %Rec      | Limits     | RPD       | Limit   |
| Chloride                         |        |         |           | 250   |      | 268.2  |           | mg/Kg |        |      | 107       | 90 - 110   | 5         | 20      |
| Lab Sample ID: 890-3597-A-1-B MS |        |         |           |       |      |        |           |       |        |      | Client    | Sample ID  | ): Matrix | Spike   |
| Matrix: Solid                    |        |         |           |       |      |        |           |       |        |      |           | Prep       | Type: S   | oluble  |
| Analysis Batch: 41738            |        |         |           |       |      |        |           |       |        |      |           |            |           |         |
|                                  | Sample | Sampl   | le        | Spike |      | MS     | MS        |       |        |      |           | %Rec       |           |         |
| Analyte                          | Result | Qualif  | ier       | Added |      | Result | Qualifier | Unit  |        | D    | %Rec      | Limits     |           |         |
| Chloride                         | 21.6   |         |           | 253   |      | 261.3  |           | mg/Kg |        |      | 95        | 90 - 110   |           |         |
| Lab Sample ID: 890-3597-A-1-C MS | D      |         |           |       |      |        |           |       | Client | t Sa | mple ID   | : Matrix S | pike Du   | plicate |
| Matrix: Solid                    |        |         |           |       |      |        |           |       |        |      |           |            | Type: S   |         |
| Analysis Batch: 41738            |        |         |           |       |      |        |           |       |        |      |           |            |           |         |
|                                  | Sample | Sampl   | le        | Spike |      | MSD    | MSD       |       |        |      |           | %Rec       |           | RPD     |
| Analyte                          | Result | Qualif  | ier       | Added |      | Result | Qualifier | Unit  |        | D    | %Rec      | Limits     | RPD       | Limit   |
| Chloride                         | 21.6   |         |           |       |      |        |           |       |        |      |           | 90 - 110   |           |         |

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## **QC** Association Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

4 5 6

Job ID: 890-3599-1 SDG: 03D2057025

## **GC VOA**

#### Prep Batch: 42102

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3599-1         | SS08                   | Total/NA  | Solid  | 5035   |            |
| 890-3599-2         | SS09                   | Total/NA  | Solid  | 5035   |            |
| 890-3599-3         | SS10                   | Total/NA  | Solid  | 5035   |            |
| 890-3599-4         | SS11                   | Total/NA  | Solid  | 5035   |            |
| MB 880-42102/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-42102/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-42102/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3596-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 390-3596-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 42367

| LCSD 880-42102/2-A    | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |    |
|-----------------------|------------------------|-----------|--------|--------|------------|----|
| 890-3596-A-1-C MS     | Matrix Spike           | Total/NA  | Solid  | 5035   |            | 8  |
| 890-3596-A-1-D MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |    |
| Analysis Batch: 42367 |                        |           |        |        |            | 9  |
|                       |                        |           |        |        |            |    |
| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch | 10 |
| 890-3599-1            | SS08                   | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3599-2            | SS09                   | Total/NA  | Solid  | 8021B  | 42102      | 44 |
| 890-3599-3            | SS10                   | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3599-4            | SS11                   | Total/NA  | Solid  | 8021B  | 42102      | 12 |
| MB 880-42102/5-A      | Method Blank           | Total/NA  | Solid  | 8021B  | 42102      |    |
| LCS 880-42102/1-A     | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 42102      | 40 |
| LCSD 880-42102/2-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 42102      | 13 |
| 890-3596-A-1-C MS     | Matrix Spike           | Total/NA  | Solid  | 8021B  | 42102      |    |
| 890-3596-A-1-D MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 42102      | 14 |
|                       |                        |           |        |        |            |    |

#### Analysis Batch: 42427

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method     | Prep Batc |
|---------------|------------------|-----------|--------|------------|-----------|
| 890-3599-1    | SS08             | Total/NA  | Solid  | Total BTEX |           |
| 890-3599-2    | SS09             | Total/NA  | Solid  | Total BTEX |           |
| 890-3599-3    | SS10             | Total/NA  | Solid  | Total BTEX |           |
| 890-3599-4    | SS11             | Total/NA  | Solid  | Total BTEX |           |

#### GC Semi VOA

#### Analysis Batch: 41559

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3599-1         | SS08                   | Total/NA  | Solid  | 8015B NM | 41575      |
| 890-3599-2         | SS09                   | Total/NA  | Solid  | 8015B NM | 41575      |
| 890-3599-3         | SS10                   | Total/NA  | Solid  | 8015B NM | 41575      |
| 890-3599-4         | SS11                   | Total/NA  | Solid  | 8015B NM | 41575      |
| MB 880-41575/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 41575      |
| LCS 880-41575/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41575      |
| LCSD 880-41575/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41575      |
| 890-3613-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41575      |
| 890-3613-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41575      |

#### Prep Batch: 41575

| Lab Sample ID     | Client Sample ID   | Prep Type | Matrix | Method      | Prep Batch |
|-------------------|--------------------|-----------|--------|-------------|------------|
| 890-3599-1        | SS08               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3599-2        | SS09               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3599-3        | SS10               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3599-4        | SS11               | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41575/1-A  | Method Blank       | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41575/2-A | Lab Control Sample | Total/NA  | Solid  | 8015NM Prep |            |

Eurofins Carlsbad

## **QC Association Summary**

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## GC Semi VOA (Continued)

#### Prep Batch: 41575 (Continued)

| Lab Sample ID         | Client Sample ID       | Ргер Туре | Matrix | Method      | Prep Batch |
|-----------------------|------------------------|-----------|--------|-------------|------------|
| LCSD 880-41575/3-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3613-A-1-E MS     | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3613-A-1-F MSD    | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |
| Analysis Patch: 41726 |                        |           |        |             |            |

#### Analysis Batch: 41726

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method  | Prep Batc |
|---------------|------------------|-----------|--------|---------|-----------|
| 890-3599-1    | SS08             | Total/NA  | Solid  | 8015 NM |           |
| 890-3599-2    | SS09             | Total/NA  | Solid  | 8015 NM |           |
| 890-3599-3    | SS10             | Total/NA  | Solid  | 8015 NM |           |
| 890-3599-4    | SS11             | Total/NA  | Solid  | 8015 NM |           |

### HPLC/IC

#### Leach Batch: 41471

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3599-1         | SS08                   | Soluble   | Solid  | DI Leach |            |
| 890-3599-2         | SS09                   | Soluble   | Solid  | DI Leach |            |
| 890-3599-3         | SS10                   | Soluble   | Solid  | DI Leach |            |
| 890-3599-4         | SS11                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3597-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3597-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

#### Analysis Batch: 41738

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3599-1         | SS08                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3599-2         | SS09                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3599-3         | SS10                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3599-4         | SS11                   | Soluble   | Solid  | 300.0  | 41471      |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41471      |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41471      |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 41471      |
| 890-3597-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 41471      |

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Job ID: 890-3599-1 SDG: 03D2057025 Project/Site: SEMU PERMIAN SOUTH HEADER

Job ID: 890-3599-1 SDG: 03D2057025

### Lab Sample ID: 890-3599-1 Matrix: Solid

#### **Client Sample ID: SS08** Date Collected: 12/07/22 13:20 Date Received: 12/07/22 14:29

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.04 g  | 5 mL   | 42102  | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 42367  | 12/21/22 13:42 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 42427  | 12/21/22 14:44 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 41726  | 12/13/22 10:27 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 41575  | 12/12/22 09:30 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 41559  | 12/13/22 03:44 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.97 g  | 50 mL  | 41471  | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 41738  | 12/14/22 09:03 | СН      | EET MID |

## **Client Sample ID: SS09**

## Date Collected: 12/07/22 13:23

Date Received: 12/07/22 14:29

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.01 g  | 5 mL   | 42102  | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 42367  | 12/21/22 14:03 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 42427  | 12/21/22 14:44 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 41726  | 12/13/22 10:27 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.00 g | 10 mL  | 41575  | 12/12/22 09:30 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 41559  | 12/13/22 04:06 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.03 g  | 50 mL  | 41471  | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 41738  | 12/14/22 09:10 | СН      | EET MID |

## **Client Sample ID: SS10**

#### Date Collected: 12/07/22 13:27 Date Received: 12/07/22 14:29

|           | Batch    | tch Batch   | Dil | Initial | Final   | Batch  | Prepared |                |         |         |
|-----------|----------|-------------|-----|---------|---------|--------|----------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor  | Amount  | Amount | Number   | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |         | 4.99 g  | 5 mL   | 42102    | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1       | 5 mL    | 5 mL   | 42367    | 12/21/22 14:24 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1       |         |        | 42427    | 12/21/22 15:37 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1       |         |        | 41726    | 12/13/22 10:27 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |         | 10.02 g | 10 mL  | 41575    | 12/12/22 09:30 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1       | 1 uL    | 1 uL   | 41559    | 12/13/22 04:28 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |         | 5.04 g  | 50 mL  | 41471    | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1       |         |        | 41738    | 12/14/22 09:30 | СН      | EET MID |

#### **Client Sample ID: SS11** Date Collected: 12/07/22 13:31 Date Received: 12/07/22 14:29

|           | Batch    | Batch      |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method     | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035       |     |        | 4.96 g  | 5 mL   | 42102  | 12/17/22 16:57 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B      |     | 1      | 5 mL    | 5 mL   | 42367  | 12/21/22 14:45 | SM      | EET MID |
| Total/NA  | Analysis | Total BTEX |     | 1      |         |        | 42427  | 12/21/22 15:37 | SM      | EET MID |

**Eurofins Carlsbad** 

## Lab Sample ID: 890-3599-3

Lab Sample ID: 890-3599-4

Lab Sample ID: 890-3599-2

#### Matrix: Solid

Matrix: Solid

Matrix: Solid

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Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

## Client Sample ID: SS11

Date Collected: 12/07/22 13:31 Date Received: 12/07/22 14:29

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 41726  | 12/13/22 10:27 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.03 g | 10 mL  | 41575  | 12/12/22 09:30 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 41559  | 12/13/22 04:50 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.04 g  | 50 mL  | 41471  | 12/09/22 13:16 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 41738  | 12/14/22 09:36 | СН      | EET MID |

#### Laboratory References:

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

Job ID: 890-3599-1 SDG: 03D2057025

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## Lab Sample ID: 890-3599-4

Matrix: Solid

Eurofins Carlsbad

## Accreditation/Certification Summary

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

#### Laboratory: Eurofins Midland

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

| thority                                      |             | Program                          | Identification Number                        | Expiration Date 06-30-23 |  |
|--|-------------|----------------------------------|--|--------------------------|--|
| xas  |             | NELAP                            | T104704400-22-25                             |                          |  |
| The following analytes the agency does not o |             | but the laboratory is not certif | ied by the governing authority. This list ma | ay include analytes for  |  |
| 0,   |             | Matrix                           | Analyte                                      |                          |  |
| Analysis Method<br>8015 NM                   | Prep Method | Matrix<br>Solid                  | Analyte<br>Total TPH                         |                          |  |

Job ID: 890-3599-1

Eurofins Carlsbad

Released to Imaging: 2/22/2023 1:43:58 PM

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SDG: 03D2057025

Job ID: 890-3599-1 SDG: 03D2057025

| 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    |
| SW846 =      | = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, Ma<br>"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third E<br>= TestAmerica Laboratories, Standard Operating Procedure | •        |            |
| Laboratory R |  |          |            |
| EET MID      | = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440  |          |            |
|              |  |          |            |
|              |  |          |            |
|              |  |          |            |

#### Protocol References:

#### Laboratory References:

Client: Ensolum Project/Site: SEMU PERMIAN SOUTH HEADER

| Job ID: 890-3599-1 |
|--------------------|
| SDG: 03D2057025    |

| ab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |     |
|--------------|------------------|--------|----------------|----------------|-------|-----|
| 0-3599-1     | SS08             | Solid  | 12/07/22 13:20 | 12/07/22 14:29 | 0.5   |     |
| 90-3599-2    | SS09             | Solid  | 12/07/22 13:23 | 12/07/22 14:29 | 0.5   |     |
| 90-3599-3    | SS10             | Solid  | 12/07/22 13:27 | 12/07/22 14:29 | 0.5   |     |
| 90-3599-4    | SS11             | Solid  | 12/07/22 13:31 | 12/07/22 14:29 | 0.5   |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       | 1   |
|              |                  |        |                |                |       | - 2 |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |

| A converting of the converting | 200,7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr 11 Sh O<br>thod(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 Ti U Hg: 1631 / 245.1 / 7470 / 7<br>sture of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofine Xenco, its affiliates and subcontractore. It assigns standard terms and conditions<br>surofine Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control<br>(enco. A minimum charge of station will be applied to each project and a charge of \$5 for each sample of 5 for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control<br>(enco. A minimum charge of station will be applied to each project and a charge of \$5 for each sample of the control for the control to the control of t |   | 1320 0.5 G | Turn Around     Preserva       ANALYSIS REQUEST     Preserva       outine     Rush     Code       Image: Code     Image: Code     Image: Code | City, State ZIP:     Reputing Level in Concerning C | Ensolum, LLC       Company Name:       Ensolum, LLC       Program: US (Jrst _ Jrst _ prownieus _ Jrst _ Jrst _ Jrst _ prownieus _ Jrst _ Jrst _ Jrst _ prownieus _ Jrst _ | HAXIE GREEN Bill to: (If different) Kalei Jennings Work Order Comments  | CUPOTINS         Environment Testing         Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300         Work Order No:           Midland, TX (432) 704-5440, San Antonio, TX (210) 508-3334         Mork Order No:         EL Paso, TX (915) 585-3443, Lubbock, TX (200) 794-1296         Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199         WMW. Xenco.com         Page         of  |
|--|---|---|------------|---|--|--|---|--|
| Fe Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Ti Sn U<br>Mo Ni Se Ag Ti U Hg: 1631/245.1/7470 /<br>Booking Will be offorced unless previously negotiated.   | $\begin{array}{c c c c c c c c c c c c c c c c c c c $  | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |            |   | SERV PERMIAN SOUTH HEADER     Turn around     Preserva       Ø3D3 ø57025     Ødoutine     Rush     code     Interval     None: NO  | ate ZIP:       Midland, TX 79701       City, State ZIP:       Reporting. Level II, Carros Links         432-657-8895       Email: Hgreen@ensolum.com: Kjennings@ensolum.com       Deliverables: EDD X       ADaPT III       Other:         Name:       SEMN PERMIAN SOUTH HENOC       Turn Around       Fm:       ANALYSIS REQUEST       Preservative         Number:       Ø3D a ø 5 702 S       Veoutine       Rush       Code       IIII       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII   | ny Name:       Ensolum, LLC       Company Name:       Ensolum, LLC       Program: US IFST       Program: US IFST </td <td>Manager:       HADLIE       GREEN       Bill to: (if different)       Kalei Jennings       Work Order Comments         ny Name:       Ensolum, LLC       Company Name:       Ensolum, LLC       Program: UST/PST       Program: UST/UST       Trr         ste ZIP:       Midland, TX 79701       City, State ZIP:       City, State ZIP:       City, State ZIP:       Name:       Midland, TX 79701       Email:       Hgreen@ensolum.com; Kjennings@ensolum.com       Reporting: Level III       PST/UST       Trr       ADaPT       Other.         Name:       VSUD a S 5 7/02 S       Voorine       Rush       code       ANALYSIS REQUEST       Preserv         Number:       Ø 3D a S 5 7/02 S       Voorine       Rush       code       ANALYSIS REQUEST       Preserv</td> | Manager:       HADLIE       GREEN       Bill to: (if different)       Kalei Jennings       Work Order Comments         ny Name:       Ensolum, LLC       Company Name:       Ensolum, LLC       Program: UST/PST       Program: UST/UST       Trr         ste ZIP:       Midland, TX 79701       City, State ZIP:       City, State ZIP:       City, State ZIP:       Name:       Midland, TX 79701       Email:       Hgreen@ensolum.com; Kjennings@ensolum.com       Reporting: Level III       PST/UST       Trr       ADaPT       Other.         Name:       VSUD a S 5 7/02 S       Voorine       Rush       code       ANALYSIS REQUEST       Preserv         Number:       Ø 3D a S 5 7/02 S       Voorine       Rush       code       ANALYSIS REQUEST       Preserv |



5 6

12 13 14

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3599 List Number: 1 Creator: Clifton, Cloe

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

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Job Number: 890-3599-1 SDG Number: 03D2057025

List Source: Eurofins Carlsbad

Job Number: 890-3599-1 SDG Number: 03D2057025

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 AM

## Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 3599 List Number: 2 Creator: Rodriguez, Leticia

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

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Received by OCD: 2/7/2023 10:16:33 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 1/6/2023 4:28:07 PM

## JOB DESCRIPTION

SEMU Permian South Header SDG NUMBER Lea County NM

## **JOB NUMBER**

890-3769-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information

Received by OCD: 2/7/2023 10:16:33 AM

## **Eurofins Carlsbad**

**Job Notes** 

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

## Authorization

RAMER

Generated 1/6/2023 4:28:07 PM

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## **Definitions/Glossary**

| Client: Ensolum                         |  |
|---|--|
| Project/Site: SEMU Permian South Header |  |

Job ID: 890-3769-1 SDG: Lea County NM

PRES

QC

RER

RL

RPD TEF

TEQ

TNTC

| Qualifiers     |   | 3 |
|----------------|---|---|
| GC VOA         |   |   |
| Qualifier      | Qualifier Description   |   |
| U              | Indicates the analyte was analyzed for but not detected.  |   |
| GC Semi VOA    |   | 5 |
| Qualifier      | Qualifier Description   |   |
| S1+            | Surrogate recovery exceeds control limits, high biased.   |   |
| U              | Indicates the analyte was analyzed for but not detected.  |   |
| HPLC/IC        |   |   |
| Qualifier      | Qualifier Description   |   |
| U              | Indicates the analyte was analyzed for but not detected.  | 8 |
| Glossary       |   | 9 |
| 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   | 4 |
| 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  |   |

Presumptive

Quality Control

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

#### Job ID: 890-3769-1 SDG: Lea County NM

#### Job ID: 890-3769-1

Client: Ensolum

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-3769-1

#### Receipt

The samples were received on 1/5/2023 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.0°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS08 (890-3769-1), SS09 (890-3769-2), SS10 (890-3769-3) and SS11 (890-3769-4).

#### GC VOA

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 880-43343 and analytical batch 880-43315 was outside the upper control limits.

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

#### HPLC/IC

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

Matrix: Solid

5

Job ID: 890-3769-1 SDG: Lea County NM

Lab Sample ID: 890-3769-1

## **Client Sample ID: SS08**

Date Collected: 01/04/23 13:00 Date Receiv

Client: Ensolum

| rganic Comp   | ounds (GC)                | )   |   |   |   |  |   |
|---------------|---------------------------|---|---|---|---|--|---|
| Result        | Qualifier                 | RL  | Unit  | D   | Prepared  | Analyzed   | Dil Fac   |
| <0.00199      | U                         | 0.00199                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| <0.00199      | U                         | 0.00199                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| <0.00199      | U                         | 0.00199                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| <0.00398      | U                         | 0.00398                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| <0.00199      | U                         | 0.00199                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| <0.00398      | U                         | 0.00398                                     | mg/Kg   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| %Recovery     | Qualifier                 | Limits                                      |   |   | Prepared  | Analyzed   | Dil Fac   |
| 109           |                           | 70 - 130                                    |   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| 111           |                           | 70 - 130                                    |   |   | 01/06/23 10:00  | 01/06/23 13:22   | 1   |
| tal BTEX Calo | culation                  |   |   |   |   |  |   |
|               |                           | RL  | Unit  | D   | Prepared  | Analyzed   | Dil Fac   |
| <0.00398      | U                         | 0.00398                                     | mg/Kg   |   |   | 01/06/23 15:28   | 1   |
| Rango Organ   | ice (DRO) (               | C)  |   |   |   |  |   |
| • •           |                           | RL  | Unit  | D   | Prepared  | Analyzed   | Dil Fac   |
| <49.9         | U                         | 49.9  | mg/Kg   |   |   | 01/06/23 16:56   | 1   |
| I Range Orga  | nics (DRO)                | (GC)  |   |   |   |  |   |
|               |                           | RL  | Unit  | D   | Prepared  | Analyzed   | Dil Fac   |
| <49.9         | U                         | 49.9  | mg/Kg   |   | 01/06/23 08:58  | 01/06/23 12:35   | 1   |
|               |                           |   |   |   |   |  |   |
| <49.9         | U                         | 49.9  | mg/Kg   |   | 01/06/23 08:58  | 01/06/23 12:35   | 1   |
| <49.9         | U                         | 49.9  | mg/Kg   |   | 01/06/23 08:58  | 01/06/23 12:35   | 1   |
| %Recovery     | Qualifier                 | Limits                                      |   |   | Prepared  | Analyzed   | Dil Fac   |
| 94            |                           | 70 - 130                                    |   |   | 01/06/23 08:58  | 01/06/23 12:35   | 1   |
| 101           |                           | 70 - 130                                    |   |   | 01/06/23 08:58  | 01/06/23 12:35   | 1   |
| Ion Chromato  | ography - So              | oluble                                      |   |   |   |  |   |
|               |                           | RL  | Unit  | D   | Prepared  | Analyzed   | Dil Fac   |
| <5.02         | U                         | 5.02  | mg/Kg   |   |   | 01/06/23 14:13   | 1   |
|               | Result           <0.00199 | Result         Qualifier           <0.00199 | <0.00199       U $0.00199$ $<0.00199$ U $0.00199$ $<0.00199$ U $0.00199$ $<0.00398$ U $0.00398$ $<0.00398$ U $49.9$ $<49.9$ | Result         Qualifier         RL         Unit           <0.00199 | Result         Qualifier         RL         Unit         D           <0.00199 | Result         Qualifier         RL         Unit         D         Prepared           <0.00199 | Result         Qualifier         RL         Unit         D         Prepared         Analyzed           <0.00199 |

### **Client Sample ID: SS09** Date Collected: 01/04/23 13:05

Date Received: 01/05/23 10:30

Sample Depth: 0.5'

| Method: SW846 8021B - Volat | ile Organic Comp | ounds (GC | )        |       |   |                |                |         |
|-----------------------------|------------------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result           | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00199         | U         | 0.00199  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| Toluene                     | <0.00199         | U         | 0.00199  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| Ethylbenzene                | <0.00199         | U         | 0.00199  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| m-Xylene & p-Xylene         | <0.00398         | U         | 0.00398  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| o-Xylene                    | <0.00199         | U         | 0.00199  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| Xylenes, Total              | <0.00398         | U         | 0.00398  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |
| Surrogate                   | %Recovery        | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 81               |           | 70 - 130 |       |   | 01/06/23 10:00 | 01/06/23 13:42 | 1       |

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## 1 1 1 ac 1 1 ac 1 ac 1 ac 1 1 1 -ac 1 1 ac 1 Lab Sample ID: 890-3769-2 Matrix: Solid

Released to Imaging: 2/22/2023 1:43:58 PM

Matrix: Solid

5

## **Client Sample Results**

Job ID: 890-3769-1 SDG: Lea County NM

Lab Sample ID: 890-3769-2

## **Client Sample ID: SS09**

Date Col Dato R

| llected: | 01/04/23 | 13:05 |  |
|----------|----------|-------|--|
| ceived:  | 01/05/23 | 10:30 |  |

Client: Ensolum

| Date Received: 01/05/23 10:30               |                |             |               |       |   |                |                |          |
|---|----------------|-------------|---------------|-------|---|----------------|----------------|----------|
| Sample Depth: 0.5'                          |                |             |               |       |   |                |                |          |
| Method: SW846 8021B - Volatile              | Organic Comp   | ounds (GC   | ) (Continued) |       |   |                |                |          |
| Surrogate                                   | %Recovery      | Qualifier   | Limits        |       |   | Prepared       | Analyzed       | Dil Fac  |
| 1,4-Difluorobenzene (Surr)                  | 109            |             | 70 - 130      |       |   | 01/06/23 10:00 | 01/06/23 13:42 | 1        |
| _<br>Method: TAL SOP Total BTEX - T         | otal BTEX Cal  | culation    |               |       |   |                |                |          |
| Analyte                                     |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed       | Dil Fac  |
| Total BTEX                                  | <0.00398       | U           | 0.00398       | mg/Kg |   |                | 01/06/23 15:28 | 1        |
| –<br>Method: SW846 8015 NM - Diese          | l Range Organ  | ics (DRO) ( | GC)           |       |   |                |                |          |
| Analyte                                     |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed       | Dil Fac  |
| Total TPH                                   | <49.8          | U           | 49.8          | mg/Kg |   |                | 01/06/23 16:56 | 1        |
| _<br>Method: SW846 8015B NM - Dies          | ol Pango Orga  |             | (60)          |       |   |                |                |          |
| Analyte                                     |                | Qualifier   | (GC)<br>RL    | Unit  | D | Prepared       | Analyzed       | Dil Fac  |
| Gasoline Range Organics                     | <49.8          | U           | 49.8          | mg/Kg |   | 01/06/23 08:58 | 01/06/23 12:56 | 1        |
| (GRO)-C6-C10<br>Diesel Range Organics (Over | <49.8          | U           | 49.8          | mg/Kg |   | 01/06/23 08:58 | 01/06/23 12:56 | 1        |
| C10-C28)                                    |                | -           |               |       |   |                |                |          |
| Oll Range Organics (Over C28-C36)           | <49.8          | U           | 49.8          | mg/Kg |   | 01/06/23 08:58 | 01/06/23 12:56 | 1        |
| Surrogate                                   | %Recovery      | Qualifier   | Limits        |       |   | Prepared       | Analyzed       | Dil Fac  |
| 1-Chlorooctane                              |                |             | 70 - 130      |       |   | 01/06/23 08:58 | 01/06/23 12:56 | 1        |
| o-Terphenyl                                 | 112            |             | 70 - 130      |       |   | 01/06/23 08:58 | 01/06/23 12:56 | 1        |
| Method: MCAWW 300.0 - Anions                | , Ion Chromato | ography - S | oluble        |       |   |                |                |          |
| Analyte                                     |                | Qualifier   | RL            | Unit  | D | Prepared       | Analyzed       | Dil Fac  |
| Chloride                                    | 5.06           |             | 4.97          | mg/Kg |   |                | 01/06/23 14:27 | 1        |
| Client Sample ID: SS10                      |                |             |               |       |   | Lab Sar        | nple ID: 890-  | 3769-3   |
| Date Collected: 01/04/23 13:10              |                |             |               |       |   |                |                | x: Solid |
| Date Received: 01/05/23 10:30               |                |             |               |       |   |                |                |          |
| Sample Depth: 0.5'                          |                |             |               |       |   |                |                |          |

| Analyte                     | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-------------------|-------------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00200          | U           | 0.00200  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| Toluene                     | <0.00200          | U           | 0.00200  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| Ethylbenzene                | <0.00200          | U           | 0.00200  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| m-Xylene & p-Xylene         | <0.00399          | U           | 0.00399  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| o-Xylene                    | <0.00200          | U           | 0.00200  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| Xylenes, Total              | <0.00399          | U           | 0.00399  | mg/Kg |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| Surrogate                   | %Recovery         | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 109               |             | 70 - 130 |       |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| 1,4-Difluorobenzene (Surr)  | 109               |             | 70 - 130 |       |   | 01/06/23 10:00 | 01/06/23 14:02 | 1       |
| Method: TAL SOP Total BTEX  | - Total BTEX Cald | culation    |          |       |   |                |                |         |
| Analyte                     | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                  | <0.00399          | U           | 0.00399  | mg/Kg |   |                | 01/06/23 15:28 | 1       |
| Method: SW846 8015 NM - Die | esel Range Organ  | ics (DRO) ( | GC)      |       |   |                |                |         |
| Analyte                     | Result            | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Analyte                     | Result            | Quannoi     | ••=      | •     | _ |                | /              |         |

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Job ID: 890-3769-1 SDG: Lea County NM

## **Client Sample ID: SS10**

Date Collected: 01/04/23 13:10 Date Received: 01/05/23 10:30

Sample Depth: 0.5'

Client: Ensolum

| —                                     |                     |   |
|---------------------------------------|---------------------|---|
| Method: SW846 8015B NM - Diesel Range | Organics (DRO) (GC) |   |
| Analysia E                            | Desult Qualifier    | ы |

| Analyte                           | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics           | <49.9     | U         | 49.9     | mg/Kg |   | 01/06/23 08:58 | 01/06/23 13:18 | 1       |
| (GRO)-C6-C10                      |           |           |          |       |   |                |                |         |
| Diesel Range Organics (Over       | <49.9     | U         | 49.9     | mg/Kg |   | 01/06/23 08:58 | 01/06/23 13:18 | 1       |
| C10-C28)                          |           |           |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36) | <49.9     | U         | 49.9     | mg/Kg |   | 01/06/23 08:58 | 01/06/23 13:18 | 1       |
| Surrogate                         | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                    | 109       |           | 70 - 130 |       |   | 01/06/23 08:58 | 01/06/23 13:18 | 1       |
| o-Terphenyl                       | 113       |           | 70 - 130 |       |   | 01/06/23 08:58 | 01/06/23 13:18 | 1       |

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

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | <4.99  | U         | 4.99 | mg/Kg |   |          | 01/06/23 14:32 | 1       |

#### **Client Sample ID: SS11**

#### Date Collected: 01/04/23 13:15

#### Date Received: 01/05/23 10:30

Sample Depth: 0.5'

| Analyte  | Result  | Qualifier   | RL  | Unit                                    | D        | Prepared                                     | Analyzed   | Dil Fac   |
|--|---|---|---|---|----------|--|--|---|
| Benzene  | <0.00200  | U   | 0.00200   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| Toluene  | <0.00200  | U   | 0.00200   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| Ethylbenzene   | <0.00200  | U   | 0.00200   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| m-Xylene & p-Xylene  | <0.00401  | U   | 0.00401   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| o-Xylene   | <0.00200  | U   | 0.00200   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| Xylenes, Total   | <0.00401  | U   | 0.00401   | mg/Kg                                   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| Surrogate  | %Recovery   | Qualifier   | Limits  |   |          | Prepared                                     | Analyzed   | Dil Fac   |
| 4-Bromofluorobenzene (Surr)  | 108   |   | 70 - 130  |   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| 1,4-Difluorobenzene (Surr)   | 103   |   | 70 - 130  |   |          | 01/06/23 10:00                               | 01/06/23 14:23   | 1   |
| · · · · · · · · · · · · · · · · · · ·  | <0.00401  | 0   | 0.00401   | mg/Kg                                   |          |  | 01/06/23 15:28   | 1   |
| Method: SW846 8015 NM - Diese  | el Range Organ  | ics (DRO) (   | GC)   |   |          | Drowowed                                     |  | Dil Fac   |
| Method: SW846 8015 NM - Diese<br>Analyte   | el Range Organ  | <mark>ics (DRO) (</mark><br>Qualifier                               |   | Unit mg/Kg                              | D        | Prepared                                     | Analyzed<br>01/06/23 15:26   | Dil Fac   |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies   | el Range Organ<br>Result<br><50.0<br>sel Range Orga                             | ics (DRO) (<br>Qualifier<br>U                                       | GC)<br>   | <u>Unit</u>                             | <u>D</u> | Prepared Prepared                            | Analyzed   | 1   |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics   | el Range Organ<br>Result<br><50.0<br>sel Range Orga                             | ics (DRO) (<br>Qualifier<br>U<br>mics (DRO)<br>Qualifier            | GC)<br><u>RL</u><br>50.0 (GC)                         | Unit<br>mg/Kg                           |          |  | Analyzed<br>01/06/23 16:56   | 1   |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over  | el Range Organ<br>Result<br><50.0<br>sel Range Orga<br>Result                   | ics (DRO) (<br>Qualifier<br>U<br>mics (DRO)<br>Qualifier<br>U       | GC)   | Unit<br>mg/Kg                           |          | Prepared                                     | Analyzed<br>01/06/23 16:56<br>Analyzed                                     | 1   |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Diese<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)   | el Range Organ<br>Result<br><50.0<br>sel Range Orga<br>Result<br><50.0          | ics (DRO) (<br>Qualifier<br>U<br>mics (DRO)<br>Qualifier<br>U<br>U  | GC)<br><u>RL</u><br>50.0<br>(GC)<br><u>RL</u><br>50.0 | Unit<br>mg/Kg<br>Unit<br>mg/Kg          |          | Prepared<br>01/06/23 08:58                   | Analyzed<br>01/06/23 16:56<br>Analyzed<br>01/06/23 13:40                   | 1   |
| Total BTEX<br>Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Diese<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate | el Range Organ<br>Result<br><50.0<br>sel Range Orga<br>Result<br><50.0<br><50.0 | ics (DRO) (1<br>Qualifier<br>U<br>mics (DRO)<br>Qualifier<br>U<br>U | GC)<br>RL<br>50.0<br>(GC)<br>RL<br>50.0<br>50.0       | Unit<br>mg/Kg<br>Unit<br>mg/Kg<br>mg/Kg |          | Prepared<br>01/06/23 08:58<br>01/06/23 08:58 | Analyzed<br>01/06/23 16:56<br>Analyzed<br>01/06/23 13:40<br>01/06/23 13:40 | Dil Fac<br>1<br>Dil Fac<br>1<br>1<br>1<br>Dil Fac |

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01/06/23 13:40

01/06/23 08:58

5

o-Terphenyl

70 - 130

104

1/6/2023

1
|  |        | Client                     | Sample Res | sults |   |          |                            |                      |    |
|--|--------|----------------------------|------------|-------|---|----------|----------------------------|----------------------|----|
| Client: Ensolum<br>Project/Site: SEMU Permian South      | Header |                            |            |       |   |          | Job ID: 890<br>SDG: Lea Co |                      | 2  |
| Client Sample ID: SS11<br>Date Collected: 01/04/23 13:15 |        |                            |            |       |   | Lab Sa   | mple ID: 890-<br>Matri     | •3769-4<br>ix: Solid |    |
| Date Received: 01/05/23 10:30<br>Sample Depth: 0.5'      |        |                            |            |       |   |          |                            |                      | 4  |
| Method: MCAWW 300.0 - Anions,<br>Analyte                 |        | graphy - Solu<br>Qualifier | uble<br>RL | Unit  | D | Prepared | Analyzed                   | Dil Fac              | 5  |
| Chloride   | <5.05  |                            | 5.05       | mg/Kg |   | Fiepaieu | 01/06/23 14:37             | 1                    |    |
|  |        |                            |            |       |   |          |                            |                      |    |
|  |        |                            |            |       |   |          |                            |                      | 8  |
|  |        |                            |            |       |   |          |                            |                      | 9  |
|  |        |                            |            |       |   |          |                            |                      |    |
|  |        |                            |            |       |   |          |                            |                      |    |
|  |        |                            |            |       |   |          |                            |                      |    |
|  |        |                            |            |       |   |          |                            |                      | 13 |
|  |        |                            |            |       |   |          |                            |                      |    |

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

| _                  |                        |          |          |
|--------------------|------------------------|----------|----------|
|                    |                        | BFB1     | DFBZ1    |
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |
| 890-3738-A-1-E MS  | Matrix Spike           | 99       | 105      |
| 890-3738-A-1-F MSD | Matrix Spike Duplicate | 105      | 109      |
| 890-3769-1         | SS08                   | 109      | 111      |
| 890-3769-2         | SS09                   | 81       | 109      |
| 890-3769-3         | SS10                   | 109      | 109      |
| 890-3769-4         | SS11                   | 108      | 103      |
| LCS 880-43171/1-A  | Lab Control Sample     | 104      | 106      |
| LCSD 880-43171/2-A | Lab Control Sample Dup | 102      | 107      |
| MB 880-43171/5-A   | Method Blank           | 99       | 105      |
| 0                  |                        | 99       | 105      |

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

|                   |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |
|-------------------|------------------------|----------|----------|--|
|                   |                        | 1CO1     | OTPH1    |  |
| ab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |
| )-3758-A-101-D MS | Matrix Spike           | 101      | 96       |  |
| 3758-A-101-E MSD  | Matrix Spike Duplicate | 102      | 98       |  |
| 3769-1            | SS08                   | 94       | 101      |  |
| 3769-2            | SS09                   | 119      | 112      |  |
| 769-3             | SS10                   | 109      | 113      |  |
| 769-4             | SS11                   | 99       | 104      |  |
| 880-43343/2-A     | Lab Control Sample     | 128      | 117      |  |
| D 880-43343/3-A   | Lab Control Sample Dup | 125      | 123      |  |
| 80-43343/1-A      | Method Blank           | 150 S1+  | 137 S1+  |  |

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Prep Type: Total/NA

Prep Type: Total/NA

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# **QC Sample Results**

#### Analysis Batch: 43326

|                             | MB        | MB        |          |       |   |                |                |         |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
|                             | МВ        | МВ        |          |       |   |                |                |         |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 99        |           | 70 - 130 |       |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |
| 1,4-Difluorobenzene (Surr)  | 105       |           | 70 - 130 |       |   | 01/04/23 14:24 | 01/06/23 11:51 | 1       |

#### Lab Sample ID: LCS 880-43171/1-A Matrix: Solid

#### Analysis Batch: 43326

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.07559 |           | mg/Kg |   | 76   | 70 - 130 |  |
| Toluene             | 0.100 | 0.07256 |           | mg/Kg |   | 73   | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.07155 |           | mg/Kg |   | 72   | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.1466  |           | mg/Kg |   | 73   | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.07250 |           | mg/Kg |   | 73   | 70 - 130 |  |

|                             | LCS       | LCS       |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 106       |           | 70 - 130 |

#### Lab Sample ID: LCSD 880-43171/2-A

#### Matrix: Solid

| Analysis Batch: 43326 |       |         |           |       |   |      | Prep     | Batch: | 43171 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.07746 |           | mg/Kg |   | 77   | 70 - 130 | 2      | 35    |
| Toluene               | 0.100 | 0.07295 |           | mg/Kg |   | 73   | 70 - 130 | 1      | 35    |
| Ethylbenzene          | 0.100 | 0.07137 |           | mg/Kg |   | 71   | 70 - 130 | 0      | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1500  |           | mg/Kg |   | 75   | 70 - 130 | 2      | 35    |
| o-Xylene              | 0.100 | 0.07359 |           | mg/Kg |   | 74   | 70 - 130 | 1      | 35    |
|                       |       |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 102       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 107       |           | 70 - 130 |

# Lab Sample ID: 890-3738-A-1-E MS

# Matrix: Solid

| Analysis Batch: 43326 |          |           |       |         |           |       |   |      | Prep     | p Batch: 43 | 3171 |
|-----------------------|----------|-----------|-------|---------|-----------|-------|---|------|----------|-------------|------|
|                       | Sample   | Sample    | Spike | MS      | MS        |       |   |      | %Rec     |             |      |
| Analyte               | Result   | Qualifier | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |             |      |
| Benzene               | <0.00201 | U         | 0.100 | 0.09220 |           | mg/Kg |   | 92   | 70 - 130 |             |      |
| Toluene               | <0.00201 | U         | 0.100 | 0.08852 |           | mg/Kg |   | 88   | 70 - 130 |             |      |

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#### **Client Sample ID: Method Blank** Prep Type: Total/NA Prep Batch: 43171

# Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 43171

Prep Type: Total/NA

Prep Type: Total/NA

# QC Sample Results

Client: Ensolum Project/Site: SEMU Permian South Header

# SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued) Lab Sample ID: 890-3738-A-1-E MS **Client Sample ID: Matrix Spike** Matrix: Solid Prep Type: Total/NA Analysis Batch: 43326 Prep Batch: 43171 Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits D < 0.00201 U 0.100 0.08473 85 70 - 130 Ethylbenzene mg/Kg m-Xylene & p-Xylene <0.00402 U 0.200 0 1759 mg/Kg 88 70 - 130 <0.00201 U 0.100 0.08390 84 70 - 130 o-Xylene mg/Kg MS MS Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 99 1,4-Difluorobenzene (Surr) 105 70 - 130 Lab Sample ID: 890-3738-A-1-F MSD **Client Sample ID: Matrix Spike Duplicate** Matrix: Solid Prep Type: Total/NA Analysis Batch: 43326 Prep Batch: 43171 Sample Sample Spike MSD MSD %Rec RPD Result Qualifier RPD Limit Added Result Qualifier %Rec Limits Analyte Unit D Benzene <0.00201 U 0.0990 0.1018 mg/Kg 103 70 - 130 10 35 Toluene < 0.00201 U 0.0990 0.09453 mg/Kg 95 70 - 130 7 35 < 0.00201 0.0990 0.09255 93 70 - 130 35 Ethylbenzene U mg/Kg 9 m-Xylene & p-Xylene <0.00402 U 0.198 0.1923 mg/Kg 97 70 - 130 9 35 70 - 130 0.0990 o-Xylene <0.00201 U 0.09249 mg/Kg 93 10 35 MSD MSD Qualifier Limits Surrogate %Recovery 4-Bromofluorobenzene (Surr) 105 70 - 130 1,4-Difluorobenzene (Surr) 109 70 - 130 Method: 8015B NM - Diesel Range Organics (DRO) (GC) Lab Sample ID: MB 880-43343/1-A **Client Sample ID: Method Blank** Matrix: Solid Prep Type: Total/NA Analysis Batch: 43315 Prep Batch: 43343 MB MB Result Qualifier RL Unit D Prepared Dil Fac Analyte Analvzed 01/06/23 08:18 <50.0 U 50.0 01/06/23 08:29 Gasoline Range Organics mg/Kg 1 (GRO)-C6-C10 01/06/23 08:18 01/06/23 08:29 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg 1 C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 01/06/23 08:18 01/06/23 08:29 mg/Kg 1 MB MB Limits Dil Fac %Recovery Qualifier Prepared Analyzed Surrogate 1-Chlorooctane 150 S1+ 70 - 13001/06/23 08:18 01/06/23 08:29 137 S1+ 70 - 130 01/06/23 08:18 01/06/23 08:29 o-Terphenyl 1 Lab Sample ID: LCS 880-43343/2-A **Client Sample ID: Lab Control Sample**

#### Matrix: Solid Prep Type: Total/NA Analysis Batch: 43315 Prep Batch: 43343 LCS LCS %Rec Spike Analyte Added Result Qualifier Unit D %Rec Limits 1000 106 1055 70 - 130Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1009 mg/Kg 101 70 - 130

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C10-C28)

# **QC Sample Results**

Client: Ensolum Project/Site: SEMU Permian South Header

#### Method: 801

| _ab Sample ID: LCS 880-43343/2              | 2-A              |           |                      |       |           |       | Client  | t Sample   | ID: Lab Co  | ontrol Sa         | ample        |
|---|------------------|-----------|----------------------|-------|-----------|-------|---------|------------|-------------|-------------------|--------------|
| Matrix: Solid                               |                  |           |                      |       |           |       |         |            |             | ype: To           |              |
| Analysis Batch: 43315                       |                  |           |                      |       |           |       |         |            | Prep        | Batch:            | 43343        |
|   | LCS              | LCS       |                      |       |           |       |         |            |             |                   |              |
| Surrogate                                   | %Recovery        | Qualifier | Limits               |       |           |       |         |            |             |                   |              |
| 1-Chlorooctane                              | 128              |           | 70 - 130             |       |           |       |         |            |             |                   |              |
| o-Terphenyl                                 | 117              |           | 70 - 130             |       |           |       |         |            |             |                   |              |
| Lab Sample ID: LCSD 880-43343               | 3/3-A            |           |                      |       |           | Clier | nt San  | nole ID: I | Lab Contro  | I Sampl           | e Dup        |
| Matrix: Solid                               |                  |           |                      |       |           |       |         |            |             | ype: To           |              |
| Analysis Batch: 43315                       |                  |           |                      |       |           |       |         |            |             | Batch:            |              |
|   |                  |           | Spike                | LCSD  | LCSD      |       |         |            | %Rec        |                   | RPD          |
| Analyte                                     |                  |           | Added                |       | Qualifier | Unit  | D       | %Rec       | Limits      | RPD               | Limit        |
| Gasoline Range Organics                     |                  |           | 1000                 | 994.1 |           | mg/Kg |         | 99         | 70 - 130    | 6                 | 20           |
| (GRO)-C6-C10<br>Diesel Range Organics (Over |                  |           | 1000                 | 1020  |           | mg/Kg |         | 102        | 70 - 130    | 1                 | 20           |
| C10-C28)                                    |                  |           | 1000                 | 1020  |           |       |         | 102        | 10-100      |                   | 20           |
|   |                  | LCSD      |                      |       |           |       |         |            |             |                   |              |
| Surrogate                                   | %Recovery        | Qualifier | Limits               |       |           |       |         |            |             |                   |              |
| 1-Chlorooctane                              | 125              |           | 70 - 130<br>70 - 130 |       |           |       |         |            |             |                   |              |
| o-Terphenyl                                 | 123              |           | 70 - 130             |       |           |       |         |            |             |                   |              |
| Lab Sample ID: 890-3758-A-101-              | -D MS            |           |                      |       |           |       |         | Client     | Sample ID   | : Matrix          | Spike        |
| Matrix: Solid                               |                  |           |                      |       |           |       |         |            | Prep 1      | ype: To           | tal/NA       |
| Analysis Batch: 43315                       |                  |           |                      |       |           |       |         |            | Prep        | Batch:            | 43343        |
|   |                  | Sample    | Spike                |       | MS        |       |         |            | %Rec        |                   |              |
| Analyte                                     |                  | Qualifier | Added                |       | Qualifier | Unit  | D       | %Rec       | Limits      |                   |              |
| Gasoline Range Organics<br>(GRO)-C6-C10     | <49.9            | U         | 998                  | 1138  |           | mg/Kg |         | 112        | 70 - 130    |                   |              |
| Diesel Range Organics (Over                 | 90.7             |           | 998                  | 1021  |           | mg/Kg |         | 93         | 70 - 130    |                   |              |
| C10-C28)                                    |                  |           |                      |       |           |       |         |            |             |                   |              |
|   | MS               | MS        |                      |       |           |       |         |            |             |                   |              |
| Surrogate                                   | %Recovery        |           | Limits               |       |           |       |         |            |             |                   |              |
| 1-Chlorooctane                              | 101              |           | 70 - 130             |       |           |       |         |            |             |                   |              |
| o-Terphenyl                                 | 96               |           | 70 - 130             |       |           |       |         |            |             |                   |              |
|   |                  |           |                      |       |           |       |         |            |             |                   |              |
| Lab Sample ID: 890-3758-A-101-              | -E MSD           |           |                      |       |           | CI    | ient Sa | ample ID   | : Matrix Sp |                   |              |
| Matrix: Solid                               |                  |           |                      |       |           |       |         |            |             | ype: To<br>Batch: |              |
| Analysis Batch: 43315                       | Sample           | Sample    | Spike                | MSD   | MSD       |       |         |            | %Rec        | Batch:            | 43343<br>RPD |
| Analyte                                     | -                | Qualifier | Added                |       | Qualifier | Unit  | D       | %Rec       | Limits      | RPD               | Limit        |
| Gasoline Range Organics                     | <49.9            |           | 997                  | 980.3 |           | mg/Kg |         | 96         | 70 - 130    | 15                | 20           |
| (GRO)-C6-C10<br>Diesel Range Organics (Over | 90.7             |           | 997                  | 1038  |           | mg/Kg |         | 95         | 70 - 130    | 2                 | 20           |
| C10-C28)                                    |                  |           |                      |       |           |       |         |            |             |                   |              |
|   |                  | MCD       |                      |       |           |       |         |            |             |                   |              |
|   | MSD<br>%Recovery |           |                      |       |           |       |         |            |             |                   |              |

|                | WI3D      | WSD       |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 102       |           | 70 - 130 |
| o-Terphenyl    | 98        |           | 70 - 130 |

Client: Ensolum

# **QC Sample Results**

Job ID: 890-3769-1 SDG: Lea County NM

Project/Site: SEMU Permian South Header Method: 300.0 - Anions, Ion Chromatography

| Lab Sample ID: MB 880-43379/1-A   |                  |                  |           |                |      |                        |           |                              |        | Client               | Sample ID:  |           |                |
|---|------------------|------------------|-----------|----------------|------|------------------------|-----------|------------------------------|--------|----------------------|---|-----------|----------------|
| Matrix: Solid   |                  |                  |           |                |      |                        |           |                              |        |                      | Prep  | Type: S   | oluble         |
| Analysis Batch: 43414   |                  |                  |           |                |      |                        |           |                              |        |                      |   |           |                |
|   |                  | MB               |           |                |      |                        |           |                              |        |                      |   |           |                |
| Analyte   |                  |                  | Qualifier |                | RL   |                        | Unit      |                              | D      | Prepared             |   |           | Dil Fac        |
| Chloride  | <                | \$.00            | U         |                | 5.00 |                        | mg/K      | g                            |        |                      | 01/06/23  | 3 13:58   |                |
| Lab Sample ID: LCS 880-43379/2-A  |                  |                  |           |                |      |                        |           |                              | Clie   | nt Samp              | ole ID: Lab C   | ontrol S  | ample          |
| Matrix: Solid   |                  |                  |           |                |      |                        |           |                              |        |                      | Prep  | Type: S   | oluble         |
| Analysis Batch: 43414   |                  |                  |           |                |      |                        |           |                              |        |                      |   |           |                |
|   |                  |                  |           | Spike          |      | LCS                    | LCS       |                              |        |                      | %Rec  |           |                |
| Analyte   |                  |                  |           | Added          |      | Result                 | Qualifier | Unit                         |        | D %Rec               | Limits  |           |                |
| Chloride  |                  |                  |           | 250            |      | 244.0                  |           | mg/Kg                        |        | 98                   | 90 _ 110  |           |                |
| Lab Sample ID: LCSD 880-43379/3-  | Δ                |                  |           |                |      |                        |           | CI                           | ient S | ample ID             | : Lab Contro  | ol Samp   | le Dur         |
| Matrix: Solid   |                  |                  |           |                |      |                        |           |                              |        |                      |   | Type: S   |                |
| Analysis Batch: 43414   |                  |                  |           |                |      |                        |           |                              |        |                      |   |           |                |
| · · · · · · · · · · · · · · · · · · ·   |                  |                  |           | Spike          |      | LCSD                   | LCSD      |                              |        |                      | %Rec  |           | RPD            |
| Analyte   |                  |                  |           | Added          |      | Result                 | Qualifier | Unit                         |        | D %Rec               | Limits  | RPD       | Limi           |
| Chloride  |                  |                  |           | 250            |      | 245.1                  |           | mg/Kg                        |        | 98                   | 90 - 110  | 0         | 20             |
|   |                  |                  |           |                |      |                        |           |                              |        |                      | Client Sa   | mple ID   | : <b>SSO</b> ( |
| Lab Sample ID: 890-3769-1 MS  |                  |                  |           |                |      |                        |           |                              |        |                      |   |           |                |
|   |                  |                  |           |                |      |                        |           |                              |        |                      | Prep  | Type: S   | oluble         |
| Matrix: Solid   |                  |                  |           |                |      |                        |           |                              |        |                      | Prep  | Type: S   | oluble         |
| Matrix: Solid   | Sample           | Sam              | ple       | Spike          |      | MS                     | MS        |                              |        |                      | Prep<br>%Rec  | o Type: S | oluble         |
| Matrix: Solid<br>Analysis Batch: 43414  | Sample<br>Result |                  |           | Spike<br>Added |      |                        |           | Unit                         |        | D %Rec               | %Rec  | Type: S   | olubl          |
| Matrix: Solid<br>Analysis Batch: 43414<br>Analyte   |                  | Qual             |           |                |      |                        |           | - <mark>Unit</mark><br>mg/Kg |        | <b>D</b> %Rec<br>101 | %Rec  | • Type: S | olubl          |
| Matrix: Solid<br>Analysis Batch: 43414<br>Analyte<br>Chloride   | Result           | Qual             |           | Added          |      | Result                 |           |                              |        |                      | %Rec<br>  |           |                |
| Matrix: Solid<br>Analysis Batch: 43414<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3769-1 MSD  | Result           | Qual             |           | Added          |      | Result                 |           |                              |        |                      | %Rec<br>Limits<br>90 - 110                              | ample ID  | : SS08         |
| Matrix: Solid<br>Analysis Batch: 43414<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3769-1 MSD<br>Matrix: Solid   | Result           | Qual             |           | Added          |      | Result                 |           |                              |        |                      | %Rec<br>Limits<br>90 - 110                              |           | : SS08         |
| Matrix: Solid<br>Analysis Batch: 43414<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3769-1 MSD<br>Matrix: Solid   | Result           | Qual<br>U        | ifier     | Added          |      | <b>Result</b> 254.6    |           |                              |        |                      | %Rec<br>Limits<br>90 - 110                              | ample ID  | : SS08         |
| Lab Sample ID: 890-3769-1 MS<br>Matrix: Solid<br>Analysis Batch: 43414<br>Analyte<br>Chloride<br>Lab Sample ID: 890-3769-1 MSD<br>Matrix: Solid<br>Analysis Batch: 43414<br>Analyte | Result<br><5.02  | Qual<br>U<br>Sam | ifier     | Added<br>251   |      | Result<br>254.6<br>MSD | Qualifier |                              |        |                      | %Rec<br>Limits<br>90 - 110<br>Client Sa<br>Prep<br>%Rec | ample ID  | : SS08         |

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Released to Imaging: 2/22/2023 1:43:58 PM

Client: Ensolum Project/Site: SEMU Permian South Header

Job ID: 890-3769-1 SDG: Lea County NM

# GC VOA

### Prep Batch: 43171

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batcl |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3769-1         | SS08                   | Total/NA  | Solid  | 5035   |            |
| 890-3769-2         | SS09                   | Total/NA  | Solid  | 5035   |            |
| 890-3769-3         | SS10                   | Total/NA  | Solid  | 5035   |            |
| 890-3769-4         | SS11                   | Total/NA  | Solid  | 5035   |            |
| MB 880-43171/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-43171/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-43171/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3738-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3738-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 43326

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3769-1         | SS08                   | Total/NA  | Solid  | 8021B  | 43171      |
| 890-3769-2         | SS09                   | Total/NA  | Solid  | 8021B  | 43171      |
| 890-3769-3         | SS10                   | Total/NA  | Solid  | 8021B  | 43171      |
| 890-3769-4         | SS11                   | Total/NA  | Solid  | 8021B  | 43171      |
| MB 880-43171/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 43171      |
| LCS 880-43171/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 43171      |
| LCSD 880-43171/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 43171      |
| 890-3738-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 43171      |
| 890-3738-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 43171      |

#### Analysis Batch: 43422

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method     | Prep Batc |
|---------------|------------------|-----------|--------|------------|-----------|
| 890-3769-1    | SS08             | Total/NA  | Solid  | Total BTEX |           |
| 890-3769-2    | SS09             | Total/NA  | Solid  | Total BTEX |           |
| 890-3769-3    | SS10             | Total/NA  | Solid  | Total BTEX |           |
| 890-3769-4    | SS11             | Total/NA  | Solid  | Total BTEX |           |

#### GC Semi VOA

#### Analysis Batch: 43315

| Lab Sample ID        | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|----------------------|------------------------|-----------|--------|----------|------------|
| 890-3769-1           |                        | Total/NA  | Solid  | 8015B NM | 43343      |
| 890-3769-2           | SS09                   | Total/NA  | Solid  | 8015B NM | 43343      |
| 890-3769-3           | SS10                   | Total/NA  | Solid  | 8015B NM | 43343      |
| 890-3769-4           | SS11                   | Total/NA  | Solid  | 8015B NM | 43343      |
| MB 880-43343/1-A     | Method Blank           | Total/NA  | Solid  | 8015B NM | 43343      |
| LCS 880-43343/2-A    | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 43343      |
| LCSD 880-43343/3-A   | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 43343      |
| 890-3758-A-101-D MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 43343      |
| 890-3758-A-101-E MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 43343      |

#### Prep Batch: 43343

| Lab Sample ID     | Client Sample ID   | Ргер Туре | Matrix | Method      | Prep Batch |
|-------------------|--------------------|-----------|--------|-------------|------------|
| 890-3769-1        | SS08               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3769-2        | SS09               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3769-3        | SS10               | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3769-4        | SS11               | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-43343/1-A  | Method Blank       | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-43343/2-A | Lab Control Sample | Total/NA  | Solid  | 8015NM Prep |            |

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Client: Ensolum Project/Site: SEMU Permian South Header

### GC Semi VOA (Continued)

#### Prep Batch: 43343 (Continued)

| Lab Sample ID         | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|-----------------------|------------------------|-----------|--------|-------------|------------|
| LCSD 880-43343/3-A    | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3758-A-101-D MS   | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3758-A-101-E MSD  | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |
| Analysis Patch: 42444 |                        |           |        |             |            |

#### Analysis Batch: 43444

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batc |
|---------------|------------------|-----------|--------|---------|-----------|
| 890-3769-1    | SS08             | Total/NA  | Solid  | 8015 NM |           |
| 890-3769-2    | SS09             | Total/NA  | Solid  | 8015 NM |           |
| 890-3769-3    | SS10             | Total/NA  | Solid  | 8015 NM |           |
| 890-3769-4    | SS11             | Total/NA  | Solid  | 8015 NM |           |

### HPLC/IC

#### Leach Batch: 43379

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3769-1         | SS08                   | Soluble   | Solid  | DI Leach |            |
| 890-3769-2         | SS09                   | Soluble   | Solid  | DI Leach |            |
| 890-3769-3         | SS10                   | Soluble   | Solid  | DI Leach |            |
| 890-3769-4         | SS11                   | Soluble   | Solid  | DI Leach |            |
| MB 880-43379/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-43379/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-43379/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3769-1 MS      | SS08                   | Soluble   | Solid  | DI Leach |            |
| 890-3769-1 MSD     | SS08                   | Soluble   | Solid  | DI Leach |            |

#### Analysis Batch: 43414

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3769-1         | SS08                   | Soluble   | Solid  | 300.0  | 43379      |
| 890-3769-2         | SS09                   | Soluble   | Solid  | 300.0  | 43379      |
| 890-3769-3         | SS10                   | Soluble   | Solid  | 300.0  | 43379      |
| 890-3769-4         | SS11                   | Soluble   | Solid  | 300.0  | 43379      |
| MB 880-43379/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 43379      |
| LCS 880-43379/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 43379      |
| LCSD 880-43379/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 43379      |
| 890-3769-1 MS      | SS08                   | Soluble   | Solid  | 300.0  | 43379      |
| 890-3769-1 MSD     | SS08                   | Soluble   | Solid  | 300.0  | 43379      |

# Job ID: 890-3769-1 SDG: Lea County NM

Project/Site: SEMU Permian South Header

Job ID: 890-3769-1 SDG: Lea County NM

## Lab Sample ID: 890-3769-1 Matrix: Solid

Date Collected: 01/04/23 13:00 Date Received: 01/05/23 10:30

**Client Sample ID: SS08** 

Client: Ensolum

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 43171  | 01/06/23 10:00 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 43326  | 01/06/23 13:22 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 43422  | 01/06/23 15:28 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 43444  | 01/06/23 16:56 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.02 g | 10 mL  | 43343  | 01/06/23 08:58 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 43315  | 01/06/23 12:35 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.98 g  | 50 mL  | 43379  | 01/06/23 12:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 43414  | 01/06/23 14:13 | СН      | EET MID |

## **Client Sample ID: SS09**

# Date Collected: 01/04/23 13:05

Date Received: 01/05/23 10:30

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Ргер Туре | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.02 g  | 5 mL   | 43171  | 01/06/23 10:00 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 43326  | 01/06/23 13:42 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 43422  | 01/06/23 15:28 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 43444  | 01/06/23 16:56 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.04 g | 10 mL  | 43343  | 01/06/23 08:58 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 43315  | 01/06/23 12:56 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.03 g  | 50 mL  | 43379  | 01/06/23 12:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 43414  | 01/06/23 14:27 | СН      | EET MID |

### **Client Sample ID: SS10**

# Date Collected: 01/04/23 13:10

Date Received: 01/05/23 10:30

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.01 g  | 5 mL   | 43171  | 01/06/23 10:00 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 43326  | 01/06/23 14:02 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 43422  | 01/06/23 15:28 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 43444  | 01/06/23 16:56 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.03 g | 10 mL  | 43343  | 01/06/23 08:58 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 43315  | 01/06/23 13:18 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.01 g  | 50 mL  | 43379  | 01/06/23 12:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 43414  | 01/06/23 14:32 | CH      | EET MID |

#### **Client Sample ID: SS11** Date Collected: 01/04/23 13:15 Date Received: 01/05/23 10:30

|           | Batch    | Batch      |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method     | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035       |     |        | 4.99 g  | 5 mL   | 43171  | 01/06/23 10:00 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B      |     | 1      | 5 mL    | 5 mL   | 43326  | 01/06/23 14:23 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX |     | 1      |         |        | 43422  | 01/06/23 15:28 | SM      | EET MID |

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#### Lab Sample ID: 890-3769-2 Matrix: Solid

Lab Sample ID: 890-3769-3

Lab Sample ID: 890-3769-4

Matrix: Solid

|  | 3 |
|--|---|
|  |   |

Matrix: Solid

Project/Site: SEMU Permian South Header

Job ID: 890-3769-1 SDG: Lea County NM

Matrix: Solid

Lab Sample ID: 890-3769-4

## Client Sample ID: SS11 Date Collected: 01/04/23 13:15

Client: Ensolum

Date Received: 01/05/23 10:30

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 43444  | 01/06/23 16:56 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.00 g | 10 mL  | 43343  | 01/06/23 08:58 | DM      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 43315  | 01/06/23 13:40 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.95 g  | 50 mL  | 43379  | 01/06/23 12:42 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      |         |        | 43414  | 01/06/23 14:37 | CH      | EET MID |

#### Laboratory References:

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

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# Accreditation/Certification Summary

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|   |                    | Accreditation/C                     | ertification Summary                         |                               |    |
|---|--------------------|-------------------------------------|--|-------------------------------|----|
| Client: Ensolum<br>Project/Site: SEMU Pe      | rmian South Header | r                                   | Job ID: 890-3769-1<br>SDG: Lea County NM     | 2                             |    |
| Laboratory: Eurofi                            |                    | y were covered under each acc       | reditation/certification below               |                               |    |
| Authority                                     |                    | Program                             | Identification Number                        | Expiration Date               |    |
| Texas   |                    | NELAP                               | T104704400-22-25                             | 06-30-23                      | E  |
| The following analytes the agency does not of |                    | t, but the laboratory is not certif | ied by the governing authority. This list ma | ay include analytes for which | 5  |
| Analysis Method                               | Prep Method        | Matrix                              | Analyte                                      |                               |    |
| 8015 NM                                       | ·                  | Solid                               | Total TPH                                    |                               |    |
| Total BTEX                                    |                    | Solid                               | Total BTEX                                   |                               |    |
|   |                    |                                     |  |                               | 8  |
|   |                    |                                     |  |                               | 9  |
|   |                    |                                     |  |                               | 10 |
|   |                    |                                     |  |                               | 11 |
|   |                    |                                     |  |                               |    |
|   |                    |                                     |  |                               |    |
|   |                    |                                     |  |                               | 13 |
|   |                    |                                     |  |                               |    |

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# **Method Summary**

#### Client: Ensolum Project/Site: SEMU Permian South Header

Job ID: 890-3769-1

| lethod     | Method Description                 | Protocol | Laboratory |
|------------|------------------------------------|----------|------------|
| 021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| otal BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 00.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 015NM Prep | Microextraction                    | SW846    | EET MID    |
| I 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

SDG: Lea County NM

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#### Job ID: 890-3769-1 SDG: Lea County NM

#### Client: Ensolum Project/Site: SEMU Permian South Header

| ab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |     |
|--------------|------------------|--------|----------------|----------------|-------|-----|
| 90-3769-1    | SS08             | Solid  | 01/04/23 13:00 | 01/05/23 10:30 | 0.5'  | - 4 |
| 90-3769-2    | SS09             | Solid  | 01/04/23 13:05 | 01/05/23 10:30 | 0.5'  |     |
| 90-3769-3    | SS10             | Solid  | 01/04/23 13:10 | 01/05/23 10:30 | 0.5'  | . 5 |
| 90-3769-4    | SS11             | Solid  | 01/04/23 13:15 | 01/05/23 10:30 | 0.5'  |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       | 8   |
|              |                  |        |                |                |       | 9   |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       | 1   |
|              |                  |        |                |                |       |     |
|              |                  |        |                |                |       | 1   |
|              |                  |        |                |                |       |     |

|        | Relinguished by: (Signature) | Noice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, Its affiliates and subcontractors. It assigns standard terms and conditions<br>of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control<br>of service. Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated<br>of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated<br>of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotiated<br>of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotiated<br>of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco. But not analyzed. These terms will be enforced unless previously negotiated<br>to the sample of the sample sample submitted to Eurofins Xenco. But not analyzed to the sample s | Total 200.7 / 6010 200.8 / 6020:<br>Circle Method(s) and Metal(s) to be analyzed | 9 |   |       | 311       | 5510     | 6055 | 3,055   | Sample Identification  | Total Containers:        | Sample Custody Seals: | Cooler Custody Seals: | Samples Received Intact: | SAMPLE RECEIPT                      | Sampler's Name: Cler  |                | Project Number: 03         | Project Name:             | Phone:          | City, State ZIP: M |                               |                  | Project Manager:        | 🔅 eurofins   |
|--------|------------------------------|--|--|---|---|-------|-----------|----------|------|---------|------------------------|--------------------------|-----------------------|-----------------------|--------------------------|-------------------------------------|---|----------------|----------------------------|---------------------------|-----------------|--------------------|-------------------------------|------------------|-------------------------|--|
|        | nature)                      | and relinquishment<br>able only for the cost<br>rge of \$85.00 will be   | 200.8 / 6020:<br>Metal(s) to be a  | M | Á |       |           |          |      |         |                        |                          | Yes No                | Yes NO MA             | Jes No                   | Temp Blank:                         | Cenner Shork  | LOT COUNTY, NM | 5604 506 960               | SEMU PERMIAN SOUTH HEADER | 87.483.2503     | MIDLAND TY         | I N MARLI                     | Ensorem LLC      | Hadlike (               |  |
| Namer  | Receiv                       | of samples constitu<br>t of samples and sha<br>applied to each pro   | e analyzed   |   | V | 6.4.1 | 50.4.1    | 5 1.4.23 |      |         | Matrix Date<br>Sampled | Correct                  | WA Temper             | -                     |                          | nk: Red No                          | F   | MN             | 9                          | SOUTH HEADE               | 503             | 10t6t X            | ENFELD ST                     |                  | Green                   | Environment Testing<br>Xenco   |
| Lac    | Received by: (Signatur       | tes a valid purchase o<br>ill not assume any resp<br>ject and a charge of \$   | 8RCRA 13PPM<br>TCLP/SPLP   |   |   | 23    | r . C/ 61 |          | 1    | 021 200 | ed Sampled             | Corrected Temperature:   | Temperature Reading:  | Correction Factor:    | eter                     | lo Wet Ice:                         | TAT starts the lab, if re                                     | Due Date:      | Routine                    |                           | Email:          |                    | 501 N MARIENFELD ST. SUTE 400 |                  |                         | Testing  |
| Stuf   | re                           | rder from client compa<br>ponsibility for any losse<br>5 for each sample subi  | A 13PPM Texas 11 AI 2<br>TCLP / SPLP 6010 : 8RCRA                                |   |   |       |           |          |      | 0.51 6  | Depth Grab/<br>Comp    | 1.3.0                    | 2hr                   | -D.5                  | FAM-DO                   | No No                               | TAT starts the day received by the lab, if received by 4:30pm | SHAR           | Rush                       | Turn Around               | E & Jenning     | City, State ZIP:   | Address:                      | Company Name:    | Bili to: (if different) | Hou<br>EL P<br>Hob   |
| 1-5-23 | Date/Time                    | iny to Eurofins Xenco<br>is or expenses Incurre<br>mitted to Eurofins Xe   | Al Sb As Ba Be<br>ICRA Sb As Ba Be   |   |   |       | *         |          | ×    | X       | Cont B                 | TE                       | ¥                     | Pa                    | Iram                     | eters                               |   |                | Pres.<br>Code              |                           | Ð               |                    |                               | ſP.              |                         | Chain of Custody<br>Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300<br>Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334<br>EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296<br>Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 |
| 3 1030 | Time                         | , its affiliates and suind<br>by the client if such<br>nco, but not analyze  | a Be B Cd C<br>Ba Be Cd Cr   |   |   | _     | X         | < X      | +    | x       | TT<br>Ch               |                          | nd                    | es                    |                          |                                     |   |                |                            |                           | ensolum.com     | 11                 | 1.                            | 11               | KALEN JUNNING           | Chain of Custody<br>TX (281) 240-4200, Dallas, TX (214) 9<br>(432) 704-5440, San Antonio, TX (210<br>X (915) 585-3443, Lubbock, TX (806) 7<br>M (575) 392-7550, Carlsbad, NM (575)   |
|        | Relinquished by: (Signature) | ocontractors. It assigns<br>:h losses are due to circ<br>d. These terms will be e  | sb As Ba Be B Cd Ca Cr Co Cu Fe Pb<br>Sb As Ba Be Cd Cr Co Cu Pb Mn Mo           |   |   |       |           |          |      |         | _                      | 890-3769                 |                       |                       |                          | -                                   |   |                |                            | ANALYSIS R                | com             |                    |                               |                  | Ing S                   | Ddy<br>(214) 902-0300<br>ITX (210) 509-3334<br>(806) 794-1296<br>A (575) 988-3199  |
|        | y: (Signature)               | standard terms and<br>umstances beyond th<br>inforced unless previ   | e Pb Mg Mn Mo N<br>Mo Ni Se Ag TI U  |   |   |       |           |          |      |         |                        | 69 Chain of Custody      |                       |                       |                          |                                     |   |                |                            | SIS REQUEST               | De              | Re                 | St                            | Pr               |                         | ]  |
|        | Rec                          | conditions<br>ne control<br>ously negotiated.  | n Mo Ni K Se<br>g TI U   |   |   |       |           |          |      |         |                        | ustoay                   | ALMAN AND AND AND A   |                       |                          |                                     |   |                |                            |                           | Deliverables: E | porting: Level     | State of Project:             | Program: UST/PST |                         | <  |
|        | Received by: (Signature)     |  | e Ag SiO <sub>2</sub> Na<br>Hg: 1631 / 24!                                       |   |   |       |           | _        |      |         |                        |                          |                       |                       |                          |                                     |   |                |                            |                           |                 | Level III          | 1                             |                  | Work Orde               | Work Order No: _   |
|        | ature)                       |  | Sr Tl Sn U<br>5.1 / 7470 /   |   |   |       |           |          |      |         | Sam                    | NaOH+AS                  | Zn Acetat             | Na 25 20 3: NaSO 3    | NaHSO 4: NABIS           | H <sub>3</sub> PO <sub>4</sub> : HP | H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>               | Cool: Cool     | None: NO                   | Pres                      | ADaPT           | PST/UST            |                               | Brownfields      | Work Order Comments     | O:   |
|        | Date/Time                    |  | V Zn<br>7471   |   |   |       |           |          |      |         | Sample Comments        | NaUH+ASCOLDIC ACID: SAPC | Zn Acetate+NaOH: Zn   | NaSO 3                | NABIS                    | 5                                   | NaOH: Na  |                | DI Water: H <sub>2</sub> O | Preservative Codes        | Other:          |                    | _                             | RRC Superfund    |                         | 9<br>9   |

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3769 List Number: 1 Creator: Stutzman, Amanda

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

Job Number: 890-3769-1 SDG Number: Lea County NM

List Source: Eurofins Carlsbad

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Eurofins Carlsbad Released to Imaging: 2/22/2023 1:43:58 PM

Job Number: 890-3769-1 SDG Number: Lea County NM

List Source: Eurofins Midland

List Creation: 01/06/23 11:27 AM

# Login Sample Receipt Checklist

Client: Ensolum

Login Number: 3769 List Number: 2 Creator: Rodriguez, Leticia

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

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

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Received by OCD: 2/1/2023 10:16:33 AM

----- Links

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Released to Imaging: 2/22/2023 1:43:58 PM

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# Environment Testing America

# **ANALYTICAL REPORT**

Eurofins Midland 1211 W. Florida Ave Midland, TX 79701 Tel: (432)704-5440

# Laboratory Job ID: 880-20244-1

Client Project/Site: SEMU Permian South Header

# For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Kalei Jennings

VRAMER

Authorized for release by: 10/20/2022 10:38:01 AM

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.

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Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

**Quality Control** 

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level"

Minimum Detectable Concentration (Radiochemistry)

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

Minimum Detectable Activity (Radiochemistry)

EDL

LOD

LOQ

MCL

MDA

MDC

MDL

ML

MPN

MQL

NC ND

NEG

POS

PQL

PRES

QC

RER RL

RPD

TEF

TEQ

TNTC

| Project/Site: S |   | 2   |
|-----------------|---|-----|
| Qualifiers      |   | - 3 |
| GC VOA          |   |     |
| Qualifier       | Qualifier Description   | 4   |
| S1+             | Surrogate recovery exceeds control limits, high biased.   | _   |
| U               | Indicates the analyte was analyzed for but not detected.  | 5   |
| GC Semi VOA     |   |     |
| Qualifier       | Qualifier Description   | 6   |
| U               | Indicates the analyte was analyzed for but not detected.  |     |
| HPLC/IC         |   | 7   |
| Qualifier       | Qualifier Description   |     |
| U               | Indicates the analyte was analyzed for but not detected.  | 8   |
| Glossary        |   | 9   |
| 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                  | 10  |
| %R              | Percent Recovery  |     |
| CFL             | Contains Free Liquid  | 14  |
| CFU             | Colony Forming Unit   |     |
| CNF             | Contains No Free Liquid   | 12  |
| DER             | Duplicate Error Ratio (normalized absolute difference)  |     |
| Dil Fac         | Dilution Factor   | 10  |
| DL              | Detection Limit (DoD/DOE)   | 13  |
| 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)   |     |

Job ID: 880-20244-1

**Eurofins Midland** 

#### Laboratory: Eurofins Midland

#### Narrative

Job Narrative 880-20244-1

#### Receipt

The samples were received on 10/11/2022 3:41 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 1.3°C

#### GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37241 and analytical batch 880-37264 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS02 (880-20244-2). 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.

#### GC Semi VOA

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 and precision for preparation batch 880-36774 and analytical batch 880-37000 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Job ID: 880-20244-1

| Client: Ensolum                         |
|---|
| Project/Site: SEMU Permian South Header |

## Lab Sample ID: 880-20244-1 Matrix: Solid

Date Collected: 10/11/22 09:33 Date Received: 10/11/22 15:41

**Client Sample ID: SS01** 

| Date Net | erveu. | 10/1 | 1/22 |
|----------|--------|------|------|
| Sample I | Depth: | 0.5  |      |

| Method: SW846 8021B - Volatile<br>Analyte   |                           | Qualifier                           | RL   | Unit                    | D        | Prepared   | Analyzed   | Dil Fa            |
|---|---------------------------|-------------------------------------|--|-------------------------|----------|--|--|-------------------|
| Benzene   | 0.428                     |                                     | 0.200  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 10                |
| Toluene   | 3.98                      |                                     | 0.200  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| Ethylbenzene  | 4.36                      |                                     | 0.200  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| m-Xylene & p-Xylene   | 5.42                      |                                     | 0.399  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| o-Xylene  | 2.96                      |                                     | 0.200  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| Xylenes, Total  | 8.38                      |                                     | 0.399  | mg/Kg                   |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
|   |                           |                                     |  |                         |          |  |  |                   |
| Surrogate   | %Recovery                 | Qualifier                           | Limits   |                         |          | Prepared   | Analyzed   | Dil Fa            |
| 4-Bromofluorobenzene (Surr)   | 127                       |                                     | 70 - 130   |                         |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| 1,4-Difluorobenzene (Surr)<br>  | 105                       |                                     | 70 - 130   |                         |          | 10/18/22 14:33                                     | 10/19/22 13:34                                     | 100               |
| Method: TAL SOP Total BTEX - T  |                           |                                     |  |                         |          |  |  |                   |
| Analyte   |                           | Qualifier                           | RL   | Unit                    | D        | Prepared   | Analyzed   | Dil Fac           |
| Total BTEX  | 17.1                      |                                     | 0.399  | mg/Kg                   |          |  | 10/19/22 14:22                                     |                   |
| Method: SW846 8015 NM - Diese   | l Range Organ             | ics (DRO) (                         | GC)  |                         |          |  |  |                   |
| Analyte   | Result                    | Qualifier                           | RL   | Unit                    | D        | Prepared   | Analyzed   | Dil Fac           |
| Total TPH   | 14100                     |                                     | 498  | mg/Kg                   |          |  | 10/13/22 11:22                                     |                   |
| -<br>Method: SW846 8015B NM - Dies  | sel Range Orga            | nics (DRO)                          | (GC)   |                         |          |  |  |                   |
| Analyte   |                           | Qualifier                           | RL   | Unit                    | D        | Prepared   | Analyzed   | Dil Fac           |
| Gasoline Range Organics   | 1030                      |                                     | 498  | mg/Kg                   |          | 10/12/22 09:02                                     | 10/12/22 18:19                                     | 1(                |
| (GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)   | 13100                     |                                     | 498  | mg/Kg                   |          | 10/12/22 09:02                                     | 10/12/22 18:19                                     | 10                |
| Oll Range Organics (Over C28-C36)   | <498                      | U                                   | 498  | mg/Kg                   |          | 10/12/22 09:02                                     | 10/12/22 18:19                                     | 1(                |
| Surrogate   | %Recovery                 | Qualifier                           | Limits   |                         |          | Prepared   | Analyzed   | Dil Fa            |
| 1-Chlorooctane  | 128                       |                                     | 70 - 130   |                         |          | 10/12/22 09:02                                     | 10/12/22 18:19                                     | 10                |
| o-Terphenyl   | 113                       |                                     | 70 - 130   |                         |          | 10/12/22 09:02                                     | 10/12/22 18:19                                     | 10                |
| _<br>Method: MCAWW 300.0 - Anions   | . Ion Chromato            | ography - Se                        | oluble   |                         |          |  |  |                   |
| Analyte   |                           | Qualifier                           | RL   | Unit                    | D        | Prepared   | Analyzed   | Dil Fac           |
| Chloride  | 487                       |                                     | 4.98   | mg/Kg                   |          |  | 10/16/22 09:33                                     |                   |
| Client Sample ID: SS02  |                           |                                     |  |                         |          | Lab Sam  | ple ID: 880-2                                      | 0244-2            |
|   |                           |                                     |  |                         |          |  | -  | x: Solic          |
| Date Collected: 10/11/22 09:35  |                           |                                     |  |                         |          |  |  |                   |
| Date Collected: 10/11/22 09:35<br>Date Received: 10/11/22 15:41   |                           |                                     |  |                         |          |  |  |                   |
| Date Received: 10/11/22 15:41   |                           |                                     |  |                         |          |  |  |                   |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5  | Organic Comp              | ounds (GC                           |  |                         |          |  |  |                   |
| Date Received: 10/11/22 15:41   |                           | <mark>ounds (GC</mark><br>Qualifier | )<br>RL  | Unit                    | D        | Prepared   | Analyzed   | Dil Fac           |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5<br>Method: SW846 8021B - Volatile  |                           | Qualifier                           | RL   |                         | <u>D</u> | Prepared<br>10/18/22 08:15                         | Analyzed   | <b>Dil Fac</b>    |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5<br>Method: SW846 8021B - Volatile<br>Analyte<br>Benzene                            | Result<br><0.200          | Qualifier                           | <b>RL</b><br>0.200                                 | mg/Kg                   | <u>D</u> | 10/18/22 08:15                                     | 10/19/22 13:54                                     | 10                |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5<br>Method: SW846 8021B - Volatile<br>Analyte<br>Benzene<br>Toluene                 | Result<br><0.200<br>0.556 | Qualifier<br>U                      | RL           0.200           0.200                 | mg/Kg<br>mg/Kg          | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15                   | 10/19/22 13:54<br>10/19/22 13:54                   | 100<br>100        |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5<br>Method: SW846 8021B - Volatile<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene | Result           <0.200   | Qualifier<br>U<br>U                 | RL           0.200           0.200           0.200 | mg/Kg<br>mg/Kg<br>mg/Kg | <u> </u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15 | 10/19/22 13:54<br>10/19/22 13:54<br>10/19/22 13:54 | 100<br>100<br>100 |
| Date Received: 10/11/22 15:41<br>Sample Depth: 0.5<br>Method: SW846 8021B - Volatile<br>Analyte<br>Benzene<br>Toluene                 | Result<br><0.200<br>0.556 | Qualifier<br>U<br>U                 | RL           0.200           0.200                 | mg/Kg<br>mg/Kg          | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15                   | 10/19/22 13:54<br>10/19/22 13:54                   | 100               |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 132       | S1+       | 70 - 130 | 10/18/22 08:15 | 10/19/22 13:54 | 100     |

Eurofins Midland

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Job ID: 880-20244-1

Client: Ensolum Project/Site: SEMU Permian South Header

| lient Sample ID: SS02  |                            |  |   |   |          | Lab Sam  | ple ID: 880-2   | 0244-2  |
|--|----------------------------|--|---|---|----------|--|---|---|
| ate Collected: 10/11/22 09:35  |                            |  |   |   |          |  | Matri   | x: Soli   |
| ate Received: 10/11/22 15:41   |                            |  |   |   |          |  |   |   |
| ample Depth: 0.5   |                            |  |   |   |          |  |   |   |
| Mathadi SW946 9021 P Valatila  | Organia Comp               | oundo (CC)   | (Continued)   |   |          |  |   |   |
| Method: SW846 8021B - Volatile   |                            |  |   |   |          |  |   |   |
| Surrogate  | %Recovery                  | Qualifier  | Limits  |   |          | Prepared   | Analyzed  | Dil Fa  |
| 1,4-Difluorobenzene (Surr)   | 91                         |  | 70 - 130  |   |          | 10/18/22 08:15   | 10/19/22 13:54  | 10  |
| Method: TAL SOP Total BTEX - T   | otal BTEX Cal              | culation   |   |   |          |  |   |   |
| Analyte  | Result                     | Qualifier  | RL  | Unit                                      | D        | Prepared   | Analyzed  | Dil Fa  |
| Total BTEX   | 0.918                      |  | 0.401   | mg/Kg                                     |          |  | 10/19/22 14:44  |   |
| Method: SW846 8015 NM - Diese  | l Range Organ              | ics (DRO) (  | GC)   |   |          |  |   |   |
| Analyte  |                            | Qualifier  | RL  | Unit                                      | D        | Prepared   | Analyzed  | Dil Fa  |
| Total TPH  | 18100                      |  | 500   | mg/Kg                                     |          | ·  | 10/13/22 11:22  |   |
|  |                            |  |   | 0.0                                       |          |  |   |   |
| Method: SW846 8015B NM - Dies  |                            |  | (GC)<br>RL  | Unit                                      | D        | Droporod   | Apolyzod  | Dil Fa  |
| Analyte<br>Gasoline Range Organics   |                            | Qualifier  | 500   |   |          | Prepared<br>10/12/22 09:02   | Analyzed<br>10/12/22 18:40  | 1   |
| (GRO)-C6-C10   | 2320                       |  | 500   | mg/Kg                                     |          | 10/12/22 09.02   | 10/12/22 10.40  | 1   |
| Diesel Range Organics (Over<br>C10-C28)  | 15800                      |  | 500   | mg/Kg                                     |          | 10/12/22 09:02   | 10/12/22 18:40  | 1   |
| Oll Range Organics (Over C28-C36)  | <500                       | U  | 500   | mg/Kg                                     |          | 10/12/22 09:02   | 10/12/22 18:40  | -   |
| Surrogate  | %Recovery                  | Qualifier  | Limits  |   |          | Prepared   | Analyzed  | Dil Fa  |
| 1-Chlorooctane   | <u>96</u>                  |  | 70 - 130  |   |          | 10/12/22 09:02   | 10/12/22 18:40  | 1   |
| o-Terphenyl  | 118                        |  | 70 - 130  |   |          | 10/12/22 09:02   | 10/12/22 18:40  | 1   |
| Method: MCAWW 300.0 - Anions<br>Analyte  |                            | Qualifier  | RL  | Unit                                      | D        | Prepared   | Analyzed  | Dil Fa  |
| Chloride   | 176                        |  | 4.99  | mg/Kg                                     |          |  | 10/16/22 09:38  |   |
| lient Sample ID: SS03  |                            |  |   |   |          | Lab Sam  | ple ID: 880-2   | 0244-   |
| ate Collected: 10/11/22 09:37  |                            |  |   |   |          |  | •   | x: Soli   |
| ate Received: 10/11/22 15:41   |                            |  |   |   |          |  |   |   |
| ample Depth: 0.5   |                            |  |   |   |          |  |   |   |
|  |                            |  |   |   |          |  |   |   |
| Mothod: SW846 8021B - Volatilo   | Organic Comp               | ounds (GC)   |   |   |          |  |   |   |
|  |                            |  |   | Unit                                      | D        | Prepared   | Analvzed  | Dil Fa  |
| Analyte  | Result                     | Qualifier  | RL  | Unit<br>ma/Ka                             | <u>D</u> | Prepared<br>10/18/22 08:15   | Analyzed  | <b>Dil Fa</b>   |
| Analyte<br>Benzene   | Result<br><0.202           | Qualifier  | RL<br>0.202   | mg/Kg                                     | D        | 10/18/22 08:15   | 10/19/22 14:15  | 10  |
| Analyte<br>Benzene<br>Toluene  | Result<br><0.202<br>0.319  | Qualifier<br>U   | RL           0.202           0.202  | mg/Kg<br>mg/Kg                            | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15  | 10<br>10  |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene  | Result <0.202 0.319 <0.202 | <b>Qualifier</b><br>U<br>U                                   | RL           0.202           0.202           0.202           0.202  | mg/Kg<br>mg/Kg<br>mg/Kg                   | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10  |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene   | Result           <0.202    | Qualifier<br>U<br>U<br>U                                     | RL<br>0.202<br>0.202<br>0.202<br>0.202<br>0.404   | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg          | <u> </u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10  |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene   | Result <0.202 0.319 <0.202 | Qualifier<br>U<br>U<br>U<br>U                                | RL           0.202           0.202           0.202           0.202  | mg/Kg<br>mg/Kg<br>mg/Kg                   | <u> </u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10  |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total   | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>U<br>U<br>U                 | RL           0.202           0.202           0.202           0.202           0.202           0.404           0.202           0.404  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10<br>10                        |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>p-Xylene<br>Xylenes, Total<br>Surrogate  | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>U<br>U<br>U                 | RL           0.202           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           D.202           0.404  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | <u>D</u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br><b>Prepared</b>  | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br><b>Analyzed</b>   | 10<br>10<br>10<br>10<br>10<br>10<br>10<br><b>Dil F</b> a      |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)   | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>U<br>U<br>U                 | RL           0.202           0.202           0.202           0.202           0.202           0.404           0.202           0.404  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | <u> </u> | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15   | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br><b>Dil Fa</b> |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)   | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>Qualifier                   | RL           0.202           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           70 - 130   | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | <u>D</u> | 10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15 | 10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15           10/19/22 14:15 | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br><b>Dil Fa</b> |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX - T   | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>Qualifier                   | RL           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           70 - 130           70 - 130  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg |          | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br><b>Prepared</b><br>10/18/22 08:15<br>10/18/22 08:15  | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10            |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX - T<br>Analyte  | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>Qualifier<br>Qualifier      | RL           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           70 - 130           70 - 130           RL   | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | <u>D</u> | 10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15           10/18/22 08:15 | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10<br><b>Dil F</b><br>10<br>10  |
| Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>p-Xylene<br>Kylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX - T<br>Analyte  | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>Qualifier<br>Qualifier      | RL           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           70 - 130           70 - 130  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg |          | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br><b>Prepared</b><br>10/18/22 08:15<br>10/18/22 08:15  | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10            |
| Method: SW846 8021B - Volatile<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene<br>Xylenes, Total<br>Surrogate<br>4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)<br>Method: TAL SOP Total BTEX - T<br>Analyte<br>Total BTEX<br>Method: SW846 8015 NM - Diese | Result           <0.202    | Qualifier<br>U<br>U<br>U<br>U<br>Qualifier<br>Qualifier<br>U | RL           0.202           0.202           0.202           0.404           0.202           0.404           0.202           0.404           D202           0.404           0.202           0.404           D202           0.404           El           0.404 | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg |          | 10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br>10/18/22 08:15<br><b>Prepared</b><br>10/18/22 08:15<br>10/18/22 08:15  | 10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15<br>10/19/22 14:15  | 10<br>10<br>10<br>10<br>10<br>10                              |

Analyzed

10/13/22 11:22

Analyte

Total TPH

RL

49.9

Unit

mg/Kg

D

Prepared

Result Qualifier

2370

Dil Fac

1

| Client: Ensolum                         |
|---|
| Project/Site: SEMU Permian South Header |

#### Lab Sample ID: 880-20244-3 Matrix: Solid

Lab Sample ID: 880-20244-4

Matrix: Solid

Date Collected: 10/11/22 09:37 Date Received: 10/11/22 15:41

**Client Sample ID: SS03** 

| Sam | nle | Der | oth: | 0.5 |  |
|-----|-----|-----|------|-----|--|

| Analyte                                 | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics<br>(GRO)-C6-C10 | 113       |           | 49.9     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 19:02 | 1       |
| Diesel Range Organics (Over<br>C10-C28) | 2260      |           | 49.9     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 19:02 | 1       |
| Oll Range Organics (Over C28-C36)       | <49.9     | U         | 49.9     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 19:02 | 1       |
| Surrogate                               | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          | 105       |           | 70 - 130 |       |   | 10/12/22 09:02 | 10/12/22 19:02 | 1       |
| o-Terphenyl                             | 103       |           | 70 - 130 |       |   | 10/12/22 09:02 | 10/12/22 19:02 | 1       |

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

| Analyte  | Result Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|------------------|------|-------|---|----------|----------------|---------|
| Chloride | 1470             | 25.3 | mg/Kg |   |          | 10/16/22 09:43 | 5       |

#### Client Sample ID: SS04

#### Date Collected: 10/11/22 09:38 Date Received: 10/11/22 15:41

| Sam | ole | De | oth: | 0.5 |
|-----|-----|----|------|-----|
|     |     | _  |      |     |

| Analyte  | Result  | Qualifier                                 | RL  | Unit                            | D            | Prepared                                     | Analyzed   | Dil Fac             |
|--|---|---|---|---------------------------------|--------------|--|--|---------------------|
| Benzene  | <0.0402   | U   | 0.0402  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| Toluene  | <0.0402   | U   | 0.0402  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| Ethylbenzene   | 0.0452  |   | 0.0402  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| m-Xylene & p-Xylene  | <0.0803   | U   | 0.0803  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| o-Xylene   | 0.0603  |   | 0.0402  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| Xylenes, Total   | <0.0803   | U   | 0.0803  | mg/Kg                           |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| Surrogate  | %Recovery   | Qualifier                                 | Limits  |                                 |              | Prepared                                     | Analyzed   | Dil Fac             |
| 4-Bromofluorobenzene (Surr)  |   |   | 70 - 130  |                                 |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| 1,4-Difluorobenzene (Surr)   | 93  |   | 70 - 130  |                                 |              | 10/18/22 08:15                               | 10/19/22 18:21   | 20                  |
| Analyte<br>Total BTEX  |   | Qualifier                                 | 0.0803  | Unit<br>mg/Kg                   | D            | Prepared                                     | Analyzed<br>10/20/22 11:21   | Dil Fac             |
| Method: SW846 8015 NM - Diese  | el Range Organ  | ics (DRO) (                               | GC)   |                                 |              |  |  |                     |
|  |   | <mark>ics (DRO) (</mark><br>Qualifier     | GC)<br>RL   | Unit                            | D            | Prepared                                     | Analyzed   | Dil Fac             |
| Analyte  |   |   |   | Unit<br>mg/Kg                   | D            | Prepared                                     | Analyzed   |                     |
| Analyte<br>Total TPH   | Result 512  | Qualifier                                 | <b>RL</b><br>49.9   |                                 | <u>D</u>     | Prepared                                     |  |                     |
| Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies  | Result<br>512<br>sel Range Orga                           | Qualifier                                 | <b>RL</b><br>49.9   |                                 | <u>D</u><br> | Prepared Prepared                            |  | 1                   |
| Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics  | Result<br>512<br>sel Range Orga                           | Qualifier<br>nics (DRO)<br>Qualifier      | (GC)  | mg/Kg                           |              |  | 10/13/22 11:22   | 1<br>Dil Fac        |
| Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10  | Result<br>512<br>sel Range Orga<br>Result                 | Qualifier<br>nics (DRO)<br>Qualifier      | (GC)  | mg/Kg<br>Unit                   |              | Prepared                                     | 10/13/22 11:22<br>Analyzed   | 1<br>Dil Fac        |
| Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over   | Result<br>512<br>Sel Range Orga<br>Result<br><49.9        | Qualifier<br>nics (DRO)<br>Qualifier      | RL           49.9           (GC)           RL           49.9                | mg/Kg<br>Unit<br>mg/Kg          |              | Prepared<br>10/12/22 09:02                   | Analyzed           10/12/22         19:24                                  | 1<br>Dil Fac        |
| Analyte<br>Total TPH<br>Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)  | Result<br>512<br>Sel Range Orga<br>Result<br><49.9        | Qualifier                                 | RL           49.9           (GC)           RL           49.9                | mg/Kg<br>Unit<br>mg/Kg          |              | Prepared<br>10/12/22 09:02                   | Analyzed           10/12/22         19:24                                  | <b>Dil Fac</b><br>1 |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH<br>Method: SW846 8015B NM - Diese<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate | Result<br>512<br>Sel Range Orga<br>Result<br><49.9<br>512 | Qualifier<br>nics (DRO)<br>Qualifier<br>U | RL           49.9           (GC)           RL           49.9           49.9 | mg/Kg<br>Unit<br>mg/Kg<br>mg/Kg |              | Prepared<br>10/12/22 09:02<br>10/12/22 09:02 | Analyzed           10/12/22         19:24           10/12/22         19:24 | Dil Fac             |

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10/12/22 19:24

10/12/22 09:02

o-Terphenyl

70 - 130

92

1

# **Client Sample Results**

| Client: Ensolum                               | Hoodor          |                          |           |          |         |                | Job ID: 880-   | 20244-  |
|---|-----------------|--------------------------|-----------|----------|---------|----------------|----------------|---------|
| Project/Site: SEMU Permian South              | Header          |                          |           |          |         |                |                |         |
| lient Sample ID: SS04                         |                 |                          |           |          |         | Lab Sam        | ple ID: 880-2  | 0244-   |
| ate Collected: 10/11/22 09:38                 |                 |                          |           | Matri    | x: Soli |                |                |         |
| ate Received: 10/11/22 15:41                  |                 |                          |           |          |         |                |                |         |
| Sample Depth: 0.5                             |                 |                          |           |          |         |                |                |         |
| Method: MCAWW 300.0 - Anion                   | s Ion Chromato  | aranhy - Se              | oluble    |          |         |                |                |         |
| Analyte                                       |                 | Qualifier                | RL        | Unit     | D       | Prepared       | Analyzed       | Dil Fa  |
| Chloride                                      | 1090            |                          | 5.02      | mg/Kg    |         |                | 10/16/22 09:48 |         |
| lient Sample ID: SS05                         |                 |                          |           |          |         | Lab Sam        | ple ID: 880-2  | 0244-   |
| ate Collected: 10/11/22 09:42                 |                 |                          |           |          |         |                | -              | x: Soli |
| ate Received: 10/11/22 15:41                  |                 |                          |           |          |         |                | Math           | x. 001  |
| Sample Depth: 0.5                             |                 |                          |           |          |         |                |                |         |
| -   |                 |                          |           |          |         |                |                |         |
| Method: SW846 8021B - Volatile<br>Analyte     |                 | ounds (GC)<br>Qualifier  | )<br>RL   | Unit     | D       | Prepared       | Analyzed       | Dil Fa  |
| Benzene                                       | <0.0398         |                          | 0.0398    |          |         | 10/18/22 08:15 | 10/19/22 18:42 |         |
| Toluene                                       | < 0.0398        |                          | 0.0398    | mg/Kg    |         | 10/18/22 08:15 | 10/19/22 18:42 |         |
| Ethylbenzene                                  | < 0.0398        |                          | 0.0398    | mg/Kg    |         | 10/18/22 08:15 | 10/19/22 18:42 |         |
| m-Xylene & p-Xylene                           | <0.0795         |                          | 0.0795    | mg/Kg    |         | 10/18/22 08:15 | 10/19/22 18:42 |         |
| o-Xylene                                      | < 0.0398        |                          | 0.0398    | mg/Kg    |         | 10/18/22 08:15 | 10/19/22 18:42 | :       |
| Xylenes, Total                                | < 0.0795        |                          | 0.0795    | mg/Kg    |         | 10/18/22 08:15 | 10/19/22 18:42 |         |
|   | -0.0700         | 0                        | 0.0750    | ilig/itg |         | 10/10/22 00:10 | 10/13/22 10.42 |         |
| Surrogate                                     | %Recovery       | Qualifier                | Limits    |          |         | Prepared       | Analyzed       | Dil F   |
| 4-Bromofluorobenzene (Surr)                   | 95              |                          | 70 - 130  |          |         | 10/18/22 08:15 | 10/19/22 18:42 | 1       |
| 1,4-Difluorobenzene (Surr)                    | 93              |                          | 70 - 130  |          |         | 10/18/22 08:15 | 10/19/22 18:42 | 1       |
| Method: TAL SOP Total BTEX -                  | Total BTEX Calo | ulation                  |           |          |         |                |                |         |
| Analyte                                       | Result          | Qualifier                | RL        | Unit     | D       | Prepared       | Analyzed       | Dil Fa  |
| Total BTEX                                    | <0.0795         | U                        | 0.0795    | mg/Kg    |         |                | 10/20/22 11:21 |         |
|   |                 |                          |           |          |         |                |                |         |
| Method: SW846 8015 NM - Diese<br>Analyte      |                 | ICS (DRO) (<br>Qualifier | GC)<br>RL | Unit     | D       | Prepared       | Analyzed       | Dil Fa  |
| Total TPH                                     | <49.8           |                          | 49.8      |          |         |                | 10/13/22 11:22 |         |
| -   | 10.0            | 0                        | 10.0      | iiig/itg |         |                |                |         |
| Method: SW846 8015B NM - Die                  | sel Range Orga  | nics (DRO)               | (GC)      |          |         |                |                |         |
| Analyte                                       |                 | Qualifier                | RL        | Unit     | D       | Prepared       | Analyzed       | Dil Fa  |
| Gasoline Range Organics<br>(GRO)-C6-C10       | <49.8           | U                        | 49.8      | mg/Kg    |         | 10/12/22 09:02 | 10/12/22 19:45 |         |
| Diesel Range Organics (Over                   | <49.8           | U                        | 49.8      | mg/Kg    |         | 10/12/22 09:02 | 10/12/22 19:45 |         |
| C10-C28)<br>Oll Range Organics (Over C28-C36) | <49.8           | U                        | 49.8      | mg/Kg    |         | 10/12/22 09:02 | 10/12/22 19:45 |         |
| Surrogate                                     | %Recovery       | Qualifier                | Limits    |          |         | Prepared       | Analyzed       | Dil F   |
| 1-Chlorooctane                                |                 |                          | 70 - 130  |          |         | 10/12/22 09:02 | 10/12/22 19:45 |         |
| o-Terphenyl                                   | 105             |                          | 70 - 130  |          |         | 10/12/22 09:02 | 10/12/22 19:45 |         |
| Method: MCAWW 300.0 - Anion                   | s. Ion Chromato | oraphy - Se              | oluble    |          |         |                |                |         |
| Analyte                                       |                 | Qualifier                | RL        | Unit     | D       | Prepared       | Analyzed       | Dil F   |
|   |                 |                          |           |          |         | •              |                |         |

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RL

0.00200

0.00200

0.00200

0.00399

0.00200

0.00399

Limits

70 - 130

70 - 130

RL

0.00399

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Unit

mg/Kg

D

D

Job ID: 880-20244-1

Analyzed

10/19/22 12:12

10/19/22 12:12

10/19/22 12:12

10/19/22 12:12

10/19/22 12:12

10/19/22 12:12

Lab Sample ID: 880-20244-7

Matrix: Solid

Dil Fac

1

1

1

1

| Project/Site: SEMU Permian South Heade | r |
|--|---|

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

# **Client Sample ID: SS06**

Date Collected: 10/11/22 09:45 Date Received: 10/11/22 15:41

Sample Depth: 0.5

Client: Ensolum

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Total BTEX

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Lab Sample ID: 880-20244-6

Prepared

10/18/22 08:15

10/18/22 08:15

10/18/22 08:15

10/18/22 08:15

10/18/22 08:15

10/18/22 08:15

Prepared

10/18/22 08:15

10/18/22 08:15

Prepared

5

| 10/19/22 12:12 | 1       |    |
|----------------|---------|----|
| Analyzed       | Dil Fac | 9  |
| 10/19/22 12:12 | 1       |    |
| 10/19/22 12:12 | 1       |    |
| Analyzed       | Dil Fac |    |
| 10/19/22 13:29 | 1       |    |
| Analyzed       | Dil Fac | 13 |

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed      |
|-----------|--------|-----------|------|-------|---|----------|---------------|
| Total TPH | <49.8  | U         | 49.8 | mg/Kg |   |          | 10/13/22 11:2 |

Result Qualifier

Qualifier

<0.00200 U

<0.00200 U

<0.00200 U

<0.00399 U

<0.00200 U

<0.00399 U

129

98

<0.00399 U

Result Qualifier

%Recovery

| Analyte                                 | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics<br>(GRO)-C6-C10 | <49.8     | U         | 49.8     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 20:07 | 1       |
| Diesel Range Organics (Over<br>C10-C28) | <49.8     | U         | 49.8     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 20:07 | 1       |
| Oll Range Organics (Over C28-C36)       | <49.8     | U         | 49.8     | mg/Kg |   | 10/12/22 09:02 | 10/12/22 20:07 | 1       |
| Surrogate                               | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          |           |           | 70 - 130 |       |   | 10/12/22 09:02 | 10/12/22 20:07 | 1       |
| o-Terphenyl                             | 109       |           | 70 - 130 |       |   | 10/12/22 09:02 | 10/12/22 20:07 | 1       |

| Method: MCAWW 300.0 - Anions, I | on Chromatog | graphy - So | oluble |       |   |          |                |         |
|---------------------------------|--------------|-------------|--------|-------|---|----------|----------------|---------|
| Analyte                         | Result       | Qualifier   | RL     | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Chloride                        | 176          |             | 5.04   | mg/Kg |   |          | 10/16/22 09:57 | 1       |

#### **Client Sample ID: SS07** Date Collected: 10/11/22 10:27 Date Received: 10/11/22 15:41 Sample Depth: 0.5

| Method: SW846 8021B - Volat | ile Organic Comp | ounds (GC) | )        |       |   |                |                |         |
|-----------------------------|------------------|------------|----------|-------|---|----------------|----------------|---------|
| Analyte                     | Result           | Qualifier  | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Benzene                     | <0.00201         | U          | 0.00201  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| Toluene                     | <0.00201         | U          | 0.00201  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| Ethylbenzene                | <0.00201         | U          | 0.00201  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| m-Xylene & p-Xylene         | <0.00402         | U          | 0.00402  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| o-Xylene                    | <0.00201         | U          | 0.00201  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| Xylenes, Total              | <0.00402         | U          | 0.00402  | mg/Kg |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |
| Surrogate                   | %Recovery        | Qualifier  | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 93               |            | 70 - 130 |       |   | 10/18/22 08:15 | 10/19/22 12:32 | 1       |

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Matrix: Solid

Released to Imaging: 2/22/2023 1:43:58 PM

#### Client: Ensolum Project/Site: SEMU Permian South Header

| lient Sample ID: SS07   |                                   |                                  |   |                |          | Lab Sam  | ple ID: 880-2   | 0244-7                                |
|---|-----------------------------------|----------------------------------|---|----------------|----------|--|---|---------------------------------------|
| ate Collected: 10/11/22 10:27   |                                   |                                  |   |                |          |  | Matri   | x: Solid                              |
| ate Received: 10/11/22 15:41  |                                   |                                  |   |                |          |  |   |                                       |
| Sample Depth: 0.5   |                                   |                                  |   |                |          |  |   |                                       |
| Method: SW846 8021B - Volatile  | Organic Comp                      | ounds (GC)                       | (Continued)   |                |          |  |   |                                       |
| Surrogate   | %Recovery                         | Qualifier                        | Limits  |                |          | Prepared   | Analyzed  | Dil Fac                               |
| 1,4-Difluorobenzene (Surr)  | 95                                |                                  | 70 - 130  |                |          | 10/18/22 08:15   | 10/19/22 12:32  | 1                                     |
|   |                                   |                                  |   |                |          |  |   |                                       |
| Method: TAL SOP Total BTEX - 1  |                                   |                                  |   |                | _        | <b>_</b> .   |   |                                       |
| Analyte   |                                   | Qualifier                        | RL  | Unit           | D        | Prepared   | Analyzed  | Dil Fac                               |
| Total BTEX  | <0.00402                          | U                                | 0.00402   | mg/Kg          |          |  | 10/19/22 13:29  | 1                                     |
| Method: SW846 8015 NM - Diese   | al Range Organ                    | ics (DRO) (                      | GC)   |                |          |  |   |                                       |
| Analyte   |                                   | Qualifier                        | RL  | Unit           | D        | Prepared   | Analyzed  | Dil Fac                               |
| Total TPH   | <49.8                             | U                                | 49.8  | mg/Kg          |          |  | 10/13/22 11:22  |                                       |
|   |                                   |                                  |   |                |          |  |   |                                       |
|   |                                   |                                  |   |                |          |  |   |                                       |
| Method: SW846 8015B NM - Dies   |                                   |                                  | (GC)  |                |          |  |   |                                       |
| Method: SW846 8015B NM - Dies<br>Analyte  | Result                            | Qualifier                        |   | Unit           | D        | Prepared   | Analyzed  | Dil Fac                               |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics   |                                   | Qualifier                        | · · ·   | Unit<br>mg/Kg  | <u>D</u> | Prepared   | Analyzed  |                                       |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10   | Result<br><49.8                   | Qualifier<br>U                   | <b>RL</b><br>49.8   | mg/Kg          | <u>D</u> | 10/12/22 09:02   | 10/12/22 20:28  | Dil Fac                               |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over  | Result                            | Qualifier<br>U                   |   |                | <u>D</u> |  |   |                                       |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10   | Result<br><49.8                   | Qualifier<br>U<br>U              | <b>RL</b><br>49.8   | mg/Kg          | <u>D</u> | 10/12/22 09:02   | 10/12/22 20:28  | 1                                     |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)  | Result<br><49.8<br><49.8          | Qualifier<br>U<br>U              | RL           49.8           49.8  | mg/Kg<br>mg/Kg | <u> </u> | 10/12/22 09:02<br>10/12/22 09:02   | 10/12/22 20:28<br>10/12/22 20:28  |                                       |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)  | Result<br><49.8<br><49.8          | Qualifier<br>U<br>U<br>U         | RL           49.8           49.8  | mg/Kg<br>mg/Kg | <u>D</u> | 10/12/22 09:02<br>10/12/22 09:02   | 10/12/22 20:28<br>10/12/22 20:28  | · · · · · · · · · · · · · · · · · · · |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)   | Result<br><49.8<br><49.8<br><49.8 | Qualifier<br>U<br>U<br>U         | RL           49.8           49.8           49.8   | mg/Kg<br>mg/Kg | <u>D</u> | 10/12/22 09:02<br>10/12/22 09:02<br>10/12/22 09:02   | 10/12/22 20:28         10/12/22 20:28         10/12/22 20:28         10/12/22 20:28         | Dil Fac                               |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate                                  | Result           <49.8            | Qualifier<br>U<br>U<br>U         | RL           49.8           49.8           49.8           Limits  | mg/Kg<br>mg/Kg | D        | 10/12/22 09:02<br>10/12/22 09:02<br>10/12/22 09:02<br><b>Prepared</b>                                | 10/12/22 20:28<br>10/12/22 20:28<br>10/12/22 20:28<br>10/12/22 20:28<br>Analyzed            | Dil Fa                                |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate<br>1-Chlorooctane<br>o-Terphenyl | Result           <49.8            | Qualifier<br>U<br>U<br>Qualifier | RL           49.8           49.8           49.8           20.8           Limits           70 - 130           70 - 130 | mg/Kg<br>mg/Kg | <u>D</u> | 10/12/22 09:02         10/12/22 09:02         10/12/22 09:02         Prepared         10/12/22 09:02 | 10/12/22 20:28         10/12/22 20:28         10/12/22 20:28 <b>Analyzed</b> 10/12/22 20:28 | Dil Fa                                |
| Method: SW846 8015B NM - Dies<br>Analyte<br>Gasoline Range Organics<br>(GRO)-C6-C10<br>Diesel Range Organics (Over<br>C10-C28)<br>Oll Range Organics (Over C28-C36)<br>Surrogate<br>1-Chlorooctane                | Result           <49.8            | Qualifier<br>U<br>U<br>Qualifier | RL           49.8           49.8           49.8           20.8           Limits           70 - 130           70 - 130 | mg/Kg<br>mg/Kg | D        | 10/12/22 09:02         10/12/22 09:02         10/12/22 09:02         Prepared         10/12/22 09:02 | 10/12/22 20:28         10/12/22 20:28         10/12/22 20:28 <b>Analyzed</b> 10/12/22 20:28 | 1                                     |

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Prep Type: Total/NA

Client: Ensolum Project/Site: SEMU Permian South Header

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

|   |                        |          |          | Percent Surrogate Recovery (Acceptance Limits) |
|---|------------------------|----------|----------|--|
|   |                        | BFB1     | DFBZ1    |  |
| ib Sample ID                                      | Client Sample ID       | (70-130) | (70-130) |  |
| 0-20244-1   | SS01                   | 127      | 105      |  |
| 0-20244-2   | SS02                   | 132 S1+  | 91       |  |
| -20244-3  | SS03                   | 116      | 104      |  |
| )-20244-4   | SS04                   | 101      | 93       |  |
| )-20244-5   | SS05                   | 95       | 93       |  |
| 0-20244-6   | SS06                   | 129      | 98       |  |
| )-20244-7   | SS07                   | 93       | 95       |  |
| -20432-A-1-B MS                                   | Matrix Spike           | 93       | 108      |  |
| 0-20432-A-1-C MSD                                 | Matrix Spike Duplicate | 102      | 97       |  |
| S 880-37241/1-A                                   | Lab Control Sample     | 117      | 104      |  |
| SD 880-37241/2-A                                  | Lab Control Sample Dup | 83       | 88       |  |
| B 880-37241/5-A                                   | Method Blank           | 90       | 99       |  |
| Sumo note Lemend                                  |                        |          |          |  |
| Surrogate Legend                                  |                        |          |          |  |
| BFB = 4-Bromofluorober<br>DFBZ = 1,4-Difluorobenz | izene (Surr)           |          |          |  |

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

Matrix: Solid

|                     |                        |          |          | Percent Surrogate Recovery (Acceptance Limi |
|---------------------|------------------------|----------|----------|---|
|                     |                        | 1CO1     | OTPH1    |   |
| ab Sample ID        | Client Sample ID       | (70-130) | (70-130) |   |
| 30-20128-A-19-C MS  | Matrix Spike           | 89       | 83       |   |
| 30-20128-A-19-D MSD | Matrix Spike Duplicate | 92       | 82       |   |
| 80-20244-1          | SS01                   | 128      | 113      |   |
| 0-20244-2           | SS02                   | 96       | 118      |   |
| 0-20244-3           | SS03                   | 105      | 103      |   |
| 0-20244-4           | SS04                   | 100      | 92       |   |
| -20244-5            | SS05                   | 113      | 105      |   |
| 0-20244-6           | SS06                   | 115      | 109      |   |
| )-20244-7           | SS07                   | 107      | 101      |   |
| S 880-36719/2-A     | Lab Control Sample     | 109      | 114      |   |
| SD 880-36719/3-A    | Lab Control Sample Dup | 110      | 114      |   |
| B 880-36719/1-A     | Method Blank           | 105      | 103      |   |

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

# Prep Type: Total/NA

Client: Ensolum Project/Site: SEMU Permian South Header

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

| Lab Sample ID: MB 880-37241/5-   | Α          |              |   |  |                  |                                  |      | <b>Client Sa</b>  | mple ID: Metho   | d Blanl              |
|--|------------|--------------|---|--|------------------|----------------------------------|------|---|--|----------------------|
| Matrix: Solid  |            |              |   |  |                  |                                  |      |   | Prep Type: 7   | Total/N/             |
| Analysis Batch: 37264  |            |              |   |  |                  |                                  |      |   | Prep Batcl   | n: 3724 <sup>-</sup> |
|  | N          | в мв         |   |  |                  |                                  |      |   |  |                      |
| Analyte  | Res        | It Qualifier | · F   | ۲L.  | Unit             |                                  | D F  | Prepared  | Analyzed   | Dil Fa               |
| Benzene  | <0.0020    | 0 U          | 0.0020  | 00   | mg/K             | g                                | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| Toluene  | <0.0020    | 0 U          | 0.0020  | 00   | mg/K             | g                                | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| Ethylbenzene   | <0.0020    | 0 U          | 0.0020  | 00   | mg/K             | g                                | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| m-Xylene & p-Xylene  | <0.0040    | 0 U          | 0.0040  | 00   | mg/K             | g                                | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| o-Xylene   | <0.0020    | 0 U          | 0.0020  | 00   | mg/K             | g                                | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| Xylenes, Total   | <0.0040    | 0 U          | 0.0040  | 00   | mg/K             | g                                | 10/1 | 18/22 14:33   | 10/19/22 10:50   |                      |
|  | N          | B MB         |   |  |                  |                                  |      |   |  |                      |
| Surrogate  | %Recove    | y Qualifie   | · Limits  |  |                  |                                  | ŀ    | Prepared  | Analyzed   | Dil Fa               |
|  |            |              |   |  |                  |                                  | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| 4-Bromofluorobenzene (Surr)  |            | 0            | 70 - 130  |  |                  |                                  | 10/  | 10/22 11.00   |  |                      |
| 4-Bromofluorobenzene (Surr)<br>1,4-Difluorobenzene (Surr)  |            | 9            | 70 <sub>-</sub> 130<br>70 <sub>-</sub> 130  |  |                  |                                  |      | 18/22 14:33   | 10/19/22 10:50   |                      |
| 1,4-Difluorobenzene (Surr)   | :          |              |   |  |                  |                                  | 10/  | 18/22 14:33   | 10/19/22 10:50   |                      |
| 1,4-Difluorobenzene (Surr)   | :          |              |   |  |                  |                                  | 10/  | 18/22 14:33   | 10/19/22 10:50   | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid  | :          |              |   |  |                  |                                  | 10/  | 18/22 14:33   | 10/19/22 10:50   | Sample<br>Fotal/N/   |
| 1,4-Difluorobenzene (Surr)   | :          |              | 70 - 130  |  | LCS              |                                  | 10/  | 18/22 14:33   | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: <sup>-</sup><br>Prep Batcl   | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264   | :          |              |   | LCS  | LCS<br>Qualifier | Unit                             | 10/  | 18/22 14:33   | 10/19/22 10:50   | Sample<br>Fotal/N/   |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid  | :          |              | 70 <sub>-</sub> 130<br>Spike  | LCS  |                  | <br>                             | 10/  | 18/22 14:33<br>t Sample   | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: "<br>Prep Batcl<br>%Rec  | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte  | :          |              | 70 - 130<br>Spike<br>Added  | LCS<br>Result  |                  |                                  | 10/  | 18/22 14:33<br>t Sample<br>%Rec   | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: <sup>-</sup><br>Prep Batcl<br>%Rec<br>Limits   | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene   | :          |              | 70 - 130<br>Spike<br>Added<br>0.100   | LCS<br>Result<br>0.1002                                |                  | mg/Kg                            | 10/  | 18/22 14:33<br>t Sample<br><u>%Rec</u><br>100                             | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: "<br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130  | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene<br>Toluene  | :          |              | 70 - 130<br>Spike<br>Added<br>0.100<br>0.100  | LCS<br>Result<br>0.1002<br>0.09988                     |                  | mg/Kg<br>mg/Kg                   | 10/  | 18/22 14:33<br>t Sample<br><u>%Rec</u><br>100<br>100                      | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type:<br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130<br>70 - 130                                      | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene                                    | :          |              | <b>Spike</b><br>Added<br>0.100<br>0.100<br>0.100  | LCS<br>Result<br>0.1002<br>0.09988<br>0.1071           |                  | mg/Kg<br>mg/Kg<br>mg/Kg          | 10/  | 18/22 14:33<br>t Sample<br><u>%Rec</u><br>100<br>100<br>107               | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: "<br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130                        | Sampl<br>Fotal/N     |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene             | :          | 9            | Spike           Added           0.100           0.100           0.100           0.100           0.200   | LCS<br>Result<br>0.1002<br>0.09988<br>0.1071<br>0.2327 |                  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | 10/  | 18/22 14:33<br><b>t Sample</b><br><b>%Rec</b><br>100<br>100<br>107<br>116 | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: <sup>-</sup><br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130<br>70 - 130 | Sample<br>Fotal/N    |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene             | - <b>A</b> | 9<br>        | Spike           Added           0.100           0.100           0.100           0.100           0.200   | LCS<br>Result<br>0.1002<br>0.09988<br>0.1071<br>0.2327 |                  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | 10/  | 18/22 14:33<br><b>t Sample</b><br><b>%Rec</b><br>100<br>100<br>107<br>116 | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: <sup>-</sup><br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130<br>70 - 130 | Sample               |
| 1,4-Difluorobenzene (Surr)<br>Lab Sample ID: LCS 880-37241/1<br>Matrix: Solid<br>Analysis Batch: 37264<br>Analyte<br>Benzene<br>Toluene<br>Ethylbenzene<br>m-Xylene & p-Xylene<br>o-Xylene | - <b>A</b> | 9<br>        | Spike           Added           0.100           0.100           0.100           0.100           0.100           0.100           0.100           0.100           0.100 | LCS<br>Result<br>0.1002<br>0.09988<br>0.1071<br>0.2327 |                  | mg/Kg<br>mg/Kg<br>mg/Kg<br>mg/Kg | 10/  | 18/22 14:33<br><b>t Sample</b><br><b>%Rec</b><br>100<br>100<br>107<br>116 | 10/19/22 10:50<br>ID: Lab Control<br>Prep Type: <sup>-</sup><br>Prep Batcl<br>%Rec<br>Limits<br>70 - 130<br>70 - 130<br>70 - 130<br>70 - 130 | Sample               |

#### Matrix: Solid

| Analysis Batch: 37264 |       |         |           |       |   |      |          | Batch: | 37241 |
|-----------------------|-------|---------|-----------|-------|---|------|----------|--------|-------|
|                       | Spike | LCSD    | LCSD      |       |   |      | %Rec     |        | RPD   |
| Analyte               | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD    | Limit |
| Benzene               | 0.100 | 0.08677 |           | mg/Kg |   | 87   | 70 - 130 | 14     | 35    |
| Toluene               | 0.100 | 0.08816 |           | mg/Kg |   | 88   | 70 - 130 | 12     | 35    |
| Ethylbenzene          | 0.100 | 0.09190 |           | mg/Kg |   | 92   | 70 - 130 | 15     | 35    |
| m-Xylene & p-Xylene   | 0.200 | 0.1686  |           | mg/Kg |   | 84   | 70 - 130 | 32     | 35    |
| o-Xylene              | 0.100 | 0.08047 |           | mg/Kg |   | 80   | 70 - 130 | 34     | 35    |
|                       | /     |         |           |       |   |      |          |        |       |

|                             | LCSD      | LCSD      |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| 4-Bromofluorobenzene (Surr) | 83        |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 88        |           | 70 - 130 |

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Prep Type: Total/NA

Lab Sample ID: MB 880-36719/1-A

Matrix: Solid

(GRO)-C6-C10

Analyte

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

Analysis Batch: 36707

Gasoline Range Organics

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

# **QC Sample Results**

RL

50.0

50.0

50.0

Limits

70 - 130

70 - 130

Unit

mg/Kg

mg/Kg

mg/Kg

MB MB

<50.0 U

<50.0 U

<50.0 U

MB MB

%Recovery Qualifier

105

103

Result Qualifier

|   |                | =              |          |
|---|----------------|----------------|----------|
|   |                | Job ID: 880-2  | 20244-1  |
|   | Client Sa      | mple ID: Metho | d Blank  |
|   |                | Prep Type: 1   |          |
|   |                | Prep Batch     | n: 36719 |
| D | Prepared       | Analyzed       | Dil Fac  |
|   | 10/12/22 09:02 | 10/12/22 10:59 | 1        |
|   | 10/12/22 09:02 | 10/12/22 10:59 | 1        |
|   | 10/12/22 09:02 | 10/12/22 10:59 | 1        |
|   |                |                |          |
|   | Prepared       | Analyzed       | Dil Fac  |
|   | Prepared       |                | Dil Fac  |

Client Sample ID: Lab Control Sample Dup

%Rec

Prep Type: Total/NA Prep Batch: 36719

RPD

| Lab Sample ID: LCS 880-36719/2-A<br>Matrix: Solid<br>Analysis Batch: 36707 |       |        |           |       | Client | Sample | Prep     | ontrol San<br>Type: Total<br>9 Batch: 36 | /NA |
|--|-------|--------|-----------|-------|--------|--------|----------|--|-----|
|  | Spike | LCS    | LCS       |       |        |        | %Rec     |  |     |
| Analyte  | Added | Result | Qualifier | Unit  | D      | %Rec   | Limits   |  |     |
| Gasoline Range Organics<br>(GRO)-C6-C10                                    | 1000  | 831.3  |           | mg/Kg |        | 83     | 70 - 130 |  |     |
| Diesel Range Organics (Over<br>C10-C28)                                    | 1000  | 1153   |           | mg/Kg |        | 115    | 70 - 130 |  |     |
| LCS LCS  | S     |        |           |       |        |        |          |  |     |

|                | LU3 LU3        |              |
|----------------|----------------|--------------|
| Surrogate      | %Recovery Qual | ifier Limits |
| 1-Chlorooctane | 109            | 70 - 130     |
| o-Terphenyl    | 114            | 70 - 130     |

| Lab Sample ID: LC | SD 880-36719/3-A |
|-------------------|------------------|
| Matrix: Solid     |                  |

| Analysis Batch: 36707 |
|-----------------------|
|                       |
|                       |

|                             |           | •     |        |           |       |   |      |          |     |       |
|-----------------------------|-----------|-------|--------|-----------|-------|---|------|----------|-----|-------|
| Analyte                     |           | Added | Result | Qualifier | Unit  | D | %Rec | Limits   | RPD | Limit |
| Gasoline Range Organics     |           | 1000  | 834.3  |           | mg/Kg |   | 83   | 70 - 130 | 0   | 20    |
| (GRO)-C6-C10                |           |       |        |           |       |   |      |          |     |       |
| Diesel Range Organics (Over |           | 1000  | 1160   |           | mg/Kg |   | 116  | 70 - 130 | 1   | 20    |
| C10-C28)                    |           |       |        |           |       |   |      |          |     |       |
|                             | ICSD ICSD |       |        |           |       |   |      |          |     |       |

LCSD LCSD

Spike

|                | LUSD      | LCSD      |          |
|----------------|-----------|-----------|----------|
| Surrogate      | %Recovery | Qualifier | Limits   |
| 1-Chlorooctane | 110       |           | 70 - 130 |
| o-Terphenyl    | 114       |           | 70 - 130 |

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

| Lab Sample ID: MB 880-36774/1-A<br>Matrix: Solid<br>Analysis Batch: 37000 |        |           |      |       |   | Client Sa | ample ID: Metho<br>Prep Type: |         |
|---|--------|-----------|------|-------|---|-----------|-------------------------------|---------|
|   | МВ     | MB        |      |       |   |           |                               |         |
| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared  | Analyzed                      | Dil Fac |
| Chloride  | <5.00  | U         | 5.00 | mg/Kg |   |           | 10/15/22 03:16                | 1       |

# **QC Sample Results**

Job ID: 880-20244-1

Client: Ensolum Project/Site: SEMU Permian South Header

| Lab Sample ID: LCS 880-36774/2-A |        |           |       |        |           |       | Clien  | t Sample | e ID: Lab C | ontrol S | ample   |
|----------------------------------|--------|-----------|-------|--------|-----------|-------|--------|----------|-------------|----------|---------|
| Matrix: Solid                    |        |           |       |        |           |       |        |          | Prep        | Type: S  | oluble  |
| Analysis Batch: 37000            |        |           |       |        |           |       |        |          |             |          |         |
|                                  |        |           | Spike | LCS    | LCS       |       |        |          | %Rec        |          |         |
| Analyte                          |        |           | Added | Result | Qualifier | Unit  | D      | %Rec     | Limits      |          |         |
| Chloride                         |        |           | 250   | 271.8  | i         | mg/Kg |        | 109      | 90 - 110    |          |         |
|                                  |        |           |       |        |           | Clie  | nt Sar | nple ID: | Lab Contro  | ol Sampl | le Dup  |
| Matrix: Solid                    |        |           |       |        |           |       |        |          | Prep        | Type: S  | oluble  |
| Analysis Batch: 37000            |        |           |       |        |           |       |        |          |             |          |         |
|                                  |        |           | Spike | LCSD   | LCSD      |       |        |          | %Rec        |          | RPD     |
| Analyte                          |        |           | Added |        | Qualifier | Unit  | D      | %Rec     | Limits      | RPD      | Limit   |
| Chloride                         |        |           | 250   | 258.1  |           | mg/Kg |        | 103      | 90 - 110    | 5        | 20      |
|                                  |        |           |       |        |           |       |        | Client S | Sample ID:  | Method   | Blank   |
| Matrix: Solid                    |        |           |       |        |           |       |        |          | Prep        | Type: S  | oluble  |
| Analysis Batch: 37024            |        |           |       |        |           |       |        |          |             |          |         |
|                                  | MB     | MB        |       |        |           |       |        |          |             |          |         |
| Analyte                          | Result | Qualifier |       | RL     | Unit      |       | D      | Prepared | Analyz      | zed      | Dil Fac |
| Chloride                         | <5.00  | U         |       | 5.00   | mg/ł      | Кg    |        |          | 10/16/22    | 07:31    | 1       |
|                                  |        |           |       |        |           |       | Clien  | t Sample | e ID: Lab C | ontrol S | ample   |
| Matrix: Solid                    |        |           |       |        |           |       |        |          | Prep        | Type: S  | oluble  |
| Analysis Batch: 37024            |        |           |       |        |           |       |        |          |             |          |         |
|                                  |        |           | Spike | LCS    | LCS       |       |        |          | %Rec        |          |         |
| Analyte                          |        |           | Added |        | Qualifier | Unit  | D      | %Rec     | Limits      |          |         |
| Chloride                         |        |           | 250   | 250.7  |           | mg/Kg |        | 100      | 90 - 110    |          |         |
|                                  |        |           |       |        |           | Clie  | nt Sar | nple ID: | Lab Contro  | ol Sampl | le Dup  |
| Matrix: Solid                    |        |           |       |        |           |       |        | -        |             | Type: S  |         |
| Analysis Batch: 37024            |        |           |       |        |           |       |        |          |             |          |         |
|                                  |        |           | Spike | LCSD   | LCSD      |       |        |          | %Rec        |          | RPD     |
| Analyte                          |        |           | Added | Result | Qualifier | Unit  | D      | %Rec     | Limits      | RPD      | Limit   |
| Chloride                         |        |           | 250   | 247.8  |           | mg/Kg |        | 99       | 90 _ 110    | 1        | 20      |

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Client: Ensolum Project/Site: SEMU Permian South Header

#### Job ID: 880-20244-1

GC VOA Prep Batch: 37241

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 880-20244-1        | SS01                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-2        | SS02                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-3        | SS03                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-4        | SS04                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-5        | SS05                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-6        | SS06                   | Total/NA  | Solid  | 5035   |            |
| 880-20244-7        | SS07                   | Total/NA  | Solid  | 5035   |            |
| MB 880-37241/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-37241/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-37241/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 37264

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |  |
|--------------------|------------------------|-----------|--------|--------|------------|--|
| 880-20244-1        | SS01                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-2        | SS02                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-3        | SS03                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-4        | SS04                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-5        | SS05                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-6        | SS06                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| 880-20244-7        | SS07                   | Total/NA  | Solid  | 8021B  | 37241      |  |
| MB 880-37241/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 37241      |  |
| LCS 880-37241/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 37241      |  |
| LCSD 880-37241/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 37241      |  |

#### Analysis Batch: 37327

| Lab Sample ID | Client Sample ID | Ргер Туре | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 880-20244-1   | SS01             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-2   | SS02             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-3   | SS03             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-4   | SS04             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-5   | SS05             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-6   | SS06             | Total/NA  | Solid  | Total BTEX |            |
| 880-20244-7   | SS07             | Total/NA  | Solid  | Total BTEX |            |

# GC Semi VOA

#### Analysis Batch: 36707

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 880-20244-1        | SS01                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-2        | SS02                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-3        | SS03                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-4        | SS04                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-5        | SS05                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-6        | SS06                   | Total/NA  | Solid  | 8015B NM | 36719      |
| 880-20244-7        | SS07                   | Total/NA  | Solid  | 8015B NM | 36719      |
| MB 880-36719/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 36719      |
| LCS 880-36719/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 36719      |
| LCSD 880-36719/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 36719      |

Eurofins Midland

Client: Ensolum Project/Site: SEMU Permian South Header

#### Prep Batch: 36719

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 880-20244-1        | SS01                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-2        | SS02                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-3        | SS03                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-4        | SS04                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-5        | SS05                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-6        | SS06                   | Total/NA  | Solid  | 8015NM Prep |            |
| 880-20244-7        | SS07                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-36719/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-36719/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-36719/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |

#### Analysis Batch: 36852

| 000-20244-7         | 5507                   | TOLAI/INA | Solid  | ou i sinivi Prep |            |    |
|---------------------|------------------------|-----------|--------|------------------|------------|----|
| MB 880-36719/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep      |            | 8  |
| LCS 880-36719/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep      |            |    |
| LCSD 880-36719/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep      |            | 9  |
| nalysis Batch: 3685 | 2                      |           |        |                  |            | 10 |
| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method           | Prep Batch |    |
| 880-20244-1         | SS01                   | Total/NA  | Solid  | 8015 NM          |            |    |
| 380-20244-2         | SS02                   | Total/NA  | Solid  | 8015 NM          |            |    |
| 380-20244-3         | SS03                   | Total/NA  | Solid  | 8015 NM          |            |    |
| 380-20244-4         | SS04                   | Total/NA  | Solid  | 8015 NM          |            |    |
| 380-20244-5         | SS05                   | Total/NA  | Solid  | 8015 NM          |            | 40 |
| 880-20244-6         | SS06                   | Total/NA  | Solid  | 8015 NM          |            | 13 |
| 000-20244-0         |                        |           |        |                  |            |    |

### HPLC/IC

#### Leach Batch: 36774

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method Pre | ep Batch |
|--------------------|------------------------|-----------|--------|------------|----------|
| 880-20244-7        | SS07                   | Soluble   | Solid  | DI Leach   |          |
| MB 880-36774/1-A   | Method Blank           | Soluble   | Solid  | DI Leach   |          |
| LCS 880-36774/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach   |          |
| LCSD 880-36774/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach   |          |

#### Leach Batch: 36793

| Lab Sample ID      | Client Sample ID       | Ргер Туре | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 880-20244-1        | SS01                   | Soluble   | Solid  | DI Leach |            |
| 880-20244-2        | SS02                   | Soluble   | Solid  | DI Leach |            |
| 880-20244-3        | SS03                   | Soluble   | Solid  | DI Leach |            |
| 880-20244-4        | SS04                   | Soluble   | Solid  | DI Leach |            |
| 880-20244-5        | SS05                   | Soluble   | Solid  | DI Leach |            |
| 880-20244-6        | SS06                   | Soluble   | Solid  | DI Leach |            |
| MB 880-36793/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-36793/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-36793/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |

#### Analysis Batch: 37000

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 880-20244-7        | SS07                   | Soluble   | Solid  | 300.0  | 36774      |
| MB 880-36774/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 36774      |
| LCS 880-36774/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 36774      |
| LCSD 880-36774/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 36774      |

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Client: Ensolum Project/Site: SEMU Permian South Header

#### HPLC/IC

### Analysis Batch: 37024

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 880-20244-1        | SS01                   | Soluble   | Solid  | 300.0  | 36793      |
| 880-20244-2        | SS02                   | Soluble   | Solid  | 300.0  | 36793      |
| 880-20244-3        | SS03                   | Soluble   | Solid  | 300.0  | 36793      |
| 880-20244-4        | SS04                   | Soluble   | Solid  | 300.0  | 36793      |
| 880-20244-5        | SS05                   | Soluble   | Solid  | 300.0  | 36793      |
| 880-20244-6        | SS06                   | Soluble   | Solid  | 300.0  | 36793      |
| MB 880-36793/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 36793      |
| LCS 880-36793/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 36793      |
| LCSD 880-36793/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 36793      |

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Lab Sample ID: 880-20244-1

Lab Sample ID: 880-20244-2

Lab Sample ID: 880-20244-3

Lab Sample ID: 880-20244-4

Matrix: Solid

Matrix: Solid

# Project/Site: SEMU Permian South Header Client Sample ID: SS01

Client: Ensolum

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |  |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|--|
| Prep Type | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |  |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 14:33 |  |
| Total/NA  | Analysis | 8021B       |     | 100      | 37264  | MNR     | EET MID | 10/19/22 13:34 |  |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/19/22 14:22 |  |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |  |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |  |
| Total/NA  | Analysis | 8015B NM    |     | 10       | 36707  | SM      | EET MID | 10/12/22 18:19 |  |

1

36793 KS

37024 CH

EET MID

EET MID

10/12/22 16:20

10/16/22 09:33

# Client Sample ID: SS02

Soluble

Soluble

# Date Collected: 10/11/22 09:35

Leach

Analysis

DI Leach

300.0

Date Received: 10/11/22 15:41

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|
| Ргер Туре | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |
| Total/NA  | Analysis | 8021B       |     | 100      | 37264  | MNR     | EET MID | 10/19/22 13:54 |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/19/22 14:44 |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |
| Total/NA  | Analysis | 8015B NM    |     | 10       | 36707  | SM      | EET MID | 10/12/22 18:40 |
| Soluble   | Leach    | DI Leach    |     |          | 36793  | KS      | EET MID | 10/12/22 16:20 |
| Soluble   | Analysis | 300.0       |     | 1        | 37024  | CH      | EET MID | 10/16/22 09:38 |

# Client Sample ID: SS03

#### Date Collected: 10/11/22 09:37 Date Received: 10/11/22 15:41

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|
| Prep Type | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |
| Total/NA  | Analysis | 8021B       |     | 100      | 37264  | MNR     | EET MID | 10/19/22 14:15 |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/19/22 14:44 |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |
| Total/NA  | Analysis | 8015B NM    |     | 1        | 36707  | SM      | EET MID | 10/12/22 19:02 |
| Soluble   | Leach    | DI Leach    |     |          | 36793  | KS      | EET MID | 10/12/22 16:20 |
| Soluble   | Analysis | 300.0       |     | 5        | 37024  | CH      | EET MID | 10/16/22 09:43 |

#### Client Sample ID: SS04 Date Collected: 10/11/22 09:38 Date Received: 10/11/22 15:41

Released to Imaging: 2/22/2023 1:43:58 PM

| _         | Batch    | Batch      |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|------------|-----|----------|--------|---------|---------|----------------|
| Prep Type | Туре     | Method     | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Prep     | 5035       |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |
| Total/NA  | Analysis | 8021B      |     | 20       | 37264  | MNR     | EET MID | 10/19/22 18:21 |
| Total/NA  | Analysis | Total BTEX |     | 1        | 37327  | SM      | EET MID | 10/20/22 11:21 |

Eurofins Midland

Matrix: Solid

# -

Matrix: Solid

Matrix: Solid

Matrix: Solid

Job ID: 880-20244-1

Lab Sample ID: 880-20244-4

Lab Sample ID: 880-20244-5

Lab Sample ID: 880-20244-6

Lab Sample ID: 880-20244-7

#### Client: Ensolum Project/Site: SEMU Permian South Header

#### Client Sample ID: SS04 Date Collected: 10/11/22 09:38

Date Received: 10/11/22 15:41

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|
| Ргер Туре | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |
| Total/NA  | Analysis | 8015B NM    |     | 1        | 36707  | SM      | EET MID | 10/12/22 19:24 |
| Soluble   | Leach    | DI Leach    |     |          | 36793  | KS      | EET MID | 10/12/22 16:20 |
| Soluble   | Analysis | 300.0       |     | 1        | 37024  | СН      | EET MID | 10/16/22 09:48 |

# Client Sample ID: SS05 Date Collected: 10/11/22 09:42

#### Date Received: 10/11/22 15:41

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |  |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|--|
| Ргер Туре | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |  |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |  |
| Total/NA  | Analysis | 8021B       |     | 20       | 37264  | MNR     | EET MID | 10/19/22 18:42 |  |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/20/22 11:21 |  |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |  |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |  |
| Total/NA  | Analysis | 8015B NM    |     | 1        | 36707  | SM      | EET MID | 10/12/22 19:45 |  |
| Soluble   | Leach    | DI Leach    |     |          | 36793  | KS      | EET MID | 10/12/22 16:20 |  |
| Soluble   | Analysis | 300.0       |     | 1        | 37024  | CH      | EET MID | 10/16/22 09:52 |  |

#### **Client Sample ID: SS06**

Date Collected: 10/11/22 09:45 Date Received: 10/11/22 15:41

|           | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|
| Prep Type | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |
| Total/NA  | Analysis | 8021B       |     | 1        | 37264  | MNR     | EET MID | 10/19/22 12:12 |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/19/22 13:29 |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |
| Total/NA  | Analysis | 8015B NM    |     | 1        | 36707  | SM      | EET MID | 10/12/22 20:07 |
| Soluble   | Leach    | DI Leach    |     |          | 36793  | KS      | EET MID | 10/12/22 16:20 |
| Soluble   | Analysis | 300.0       |     | 1        | 37024  | СН      | EET MID | 10/16/22 09:57 |

#### Client Sample ID: SS07 Date Collected: 10/11/22 10:27 Date Received: 10/11/22 15:41

| _         | Batch    | Batch       |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|-------------|-----|----------|--------|---------|---------|----------------|
| Ргер Туре | Туре     | Method      | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Total/NA  | Prep     | 5035        |     |          | 37241  | MNR     | EET MID | 10/18/22 08:15 |
| Total/NA  | Analysis | 8021B       |     | 1        | 37264  | MNR     | EET MID | 10/19/22 12:32 |
| Total/NA  | Analysis | Total BTEX  |     | 1        | 37327  | SM      | EET MID | 10/19/22 13:29 |
| Total/NA  | Analysis | 8015 NM     |     | 1        | 36852  | SM      | EET MID | 10/13/22 11:22 |
| Total/NA  | Prep     | 8015NM Prep |     |          | 36719  | DM      | EET MID | 10/12/22 09:02 |
| Total/NA  | Analysis | 8015B NM    |     | 1        | 36707  | SM      | EET MID | 10/12/22 20:28 |

#### **Eurofins Midland**

Matrix: Solid

## Lab Chronicle

Job ID: 880-20244-1

# Project/Site: SEMU Permian South Header **Client Sample ID: SS07**

Date Collected: 10/11/22 10:27 Date Received: 10/11/22 15:41

Client: Ensolum

|           | Batch    | Batch    |     | Dilution | Batch  |         |         | Prepared       |
|-----------|----------|----------|-----|----------|--------|---------|---------|----------------|
| Prep Type | Туре     | Method   | Run | Factor   | Number | Analyst | Lab     | or Analyzed    |
| Soluble   | Leach    | DI Leach |     |          | 36774  | KS      | EET MID | 10/12/22 15:57 |
| Soluble   | Analysis | 300.0    |     | 1        | 37000  | СН      | EET MID | 10/15/22 05:45 |

#### Laboratory References:

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

Eurofins Midland

Lab Sample ID: 880-20244-7 Matrix: Solid 5 6 7 8 9

# **Accreditation/Certification Summary**

| Client: Ensolum<br>Project/Site: SEMU Per        | rmian South Header |                                 |   | Job ID: 880-20244-1           |    |
|--|--------------------|---------------------------------|---|-------------------------------|----|
| Laboratory: Eurofi                               |                    |                                 | reditation/certification below.               |                               | 3  |
| Authority  |                    | rogram                          | Identification Number                         | Expiration Date               | 4  |
| Texas  | N                  | ELAP                            | T104704400-22-24                              | 06-30-23                      | 5  |
| The following analytes a the agency does not off |                    | ut the laboratory is not certif | fied by the governing authority. This list ma | ay include analytes for which | 6  |
| Analysis Method                                  | Prep Method        | Matrix                          | Analyte                                       |                               |    |
| 8015 NM  |                    | Solid                           | Total TPH                                     |                               |    |
| Total BTEX                                       |                    | Solid                           | Total BTEX                                    |                               |    |
|  |                    |                                 |   |                               | 8  |
|  |                    |                                 |   |                               | 9  |
|  |                    |                                 |   |                               | 10 |
|  |                    |                                 |   |                               |    |
|  |                    |                                 |   |                               |    |
|  |                    |                                 |   |                               |    |
|  |                    |                                 |   |                               | 13 |
|  |                    |                                 |   |                               |    |

Eurofins Midland

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### **Method Summary**

#### Client: Ensolum Project/Site: SEMU Permian South Header

Job ID: 880-20244-1

| lethod     | Method Description                 | Protocol | Laboratory |
|------------|------------------------------------|----------|------------|
| 021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| otal BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 00.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 015NM Prep | Microextraction                    | SW846    | EET MID    |
| l 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

**Eurofins Midland** 

# **Sample Summary**

Client: Ensolum Project/Site: SEMU Permian South H

| Header |  |  |  |
|--------|--|--|--|
|        |  |  |  |
|        |  |  |  |

| ab Sample ID. | Client Sample ID | Matrix | Collected      | Received       | Depth |     |
|---------------|------------------|--------|----------------|----------------|-------|-----|
| 80-20244-1    | SS01             | Solid  | 10/11/22 09:33 | 10/11/22 15:41 | 0.5   | _   |
| 80-20244-2    | SS02             | Solid  | 10/11/22 09:35 | 10/11/22 15:41 | 0.5   |     |
| 80-20244-3    | SS03             | Solid  | 10/11/22 09:37 | 10/11/22 15:41 | 0.5   | . Ę |
| 80-20244-4    | SS04             | Solid  | 10/11/22 09:38 | 10/11/22 15:41 | 0.5   |     |
| 80-20244-5    | SS05             | Solid  | 10/11/22 09:42 | 10/11/22 15:41 | 0.5   |     |
| 80-20244-6    | SS06             | Solid  | 10/11/22 09:45 | 10/11/22 15:41 | 0.5   |     |
| 80-20244-7    | SS07             | Solid  | 10/11/22 10:27 | 10/11/22 15:41 | 0.5   |     |
|               |                  |        |                |                |       |     |
|               |                  |        |                |                |       |     |
|               |                  |        |                |                |       |     |
|               |                  |        |                |                |       |     |
|               |                  |        |                |                |       | ſ   |
|               |                  |        |                |                |       |     |
|               |                  |        |                |                |       |     |

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| Relinquished by: (Signature) Received by: (Signature)         | 0 be analyze(<br>inquishment of sa<br>hy for the cost of<br>186.00 will be appl  | BRCRA   |                            | 2002 Page Page Page Page Page Page Page Page | 0132 0137 | Sample Identification Matrix Sampled Sampled Sampled Sampled Matrix Sampled Sampled Sampled Sampled Sampled Structure Statement Structure Structur | Yes No (Nux Temperature R     Corrected Tem   | SAMPLE RECEIPT         Temp Blank:         Yes / No         Wet Ice:           Samples Received Intact         Yes         No         Thermometer ID:         *           Cooler Custody Seals         Yes         Yes         No         Thermometer ID:         * | addages 1925  | HEMDER XRoutine             | Name SEMV PERMINAN SOUTH Turn | Phone (0)(7.603. Email )                     | 601 N Marienfeld Street, Suite 400 | Company Name: Ensolum, LLC            | VIAI EL TEANNIANAL  | - Xenco   | Environment Testing                                      |
|---|--|---|----------------------------|--|-----------|--|---|---|---|-----------------------------|-------------------------------|--|------------------------------------|---------------------------------------|---------------------|---|--|
|   | LP 6010 BRCRA Sb /<br>rchase order from client compan<br>re any responsibility for any loss<br>arge of \$5 for each sample submi   | 13PPM Texas 11 Al Sb                          |                            |  |           | Depth Grap Cont F  |   | Paramete<br>6015  | Due Date.<br>TAT starts the day received by<br>the lab, if received by 4:30pm | Rush Code                   | Turn Around                   | City, State ZIP                              | Address.                           | Bill to' (if different) Company Name. | Hobbs NM (575) 3    | EL Paso TX (915) (                                    | Midland, TX (432) 70                                     |
| Date/Time Relinquished by (Signa<br>0/111/7-22<br> SU/4<br> 6 | A Sb As Ba Be Cd Cr Co Cu Pb Mn Mo<br>at company to Eurofins Xenco, its affiliates and subcontractors<br>r any losses or expenses incurred by the client if such losses a<br>ple submitted to Eurofins Xenco, but not analyzed. These term | As Ba Be B Cd Ca Cr Co Cu Fe I                |                            |  |           |  | RTEX  |   |   |                             |                               | City, State ZIP                              |                                    | CHUCI JENNINGIS                       | 1 9                 | EL Paso TX (915) 585-3443, Lubbock, TX (806) 794-1296 | Midland, TX (432) 704-5440 San Antonio TX (210) 509-3334 |
| ignature) Received by (Signature)                             | 1 / 245 1 /<br>ed.   | Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr | 880-20244 Chain of Custody |  |           |  | Zn Aceta<br>NaOH+A                            | H <sub>3</sub> PO <sub>4</sub> , HP<br>NaHSO <sub>4</sub> NABIS   | Cool Cool<br>HCL HC<br>H2S04 H2   | None                        |                               | Reporting Level III/A Level III PST/UST TRRP | State of Project: 25               |                                       | www.xenco.com Page. |   | Work Order No: 2   |
| Date/Time   |  | TI Sn U V Zn                                  |                            |  | - 402     | Sample Comments  | Zn Acetate+NaOH Zn<br>NaOH+Ascorbic Acid SAPC | VABIS   | MeOH Me<br>HNO <sub>3</sub> . HN<br><sup>1</sup> 2 NaOH Na                    | O DI Water H <sub>2</sub> O | Preservative Codes            |  |                                    | C Thinkefind                          | igeof               |   | 20244  |

eurofins

13

Chain of Custody Houston, TX (281) 240-4200, Dallas TX (214) 902

14

Job Number: 880-20244-1

List Source: Eurofins Midland

# Login Sample Receipt Checklist

Client: Ensolum

<6mm (1/4").

Login Number: 20244 List Number: 1 Creator: Rodriguez, Leticia

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

N/A

Containers requiring zero headspace have no headspace or bubble is

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

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

District III

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

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

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

CONDITIONS

| Operator:                    | OGRID:                                    |  |  |  |  |
|------------------------------|---|--|--|--|--|
| Maverick Permian LLC         | 331199                                    |  |  |  |  |
| 1111 Bagby Street Suite 1600 | Action Number:                            |  |  |  |  |
| Houston, TX 77002            | 183547                                    |  |  |  |  |
|                              | Action Type:                              |  |  |  |  |
|                              | [C-141] Release Corrective Action (C-141) |  |  |  |  |
|                              |   |  |  |  |  |

#### CONDITIONS

| Created<br>By | Condition                | Condition<br>Date |
|---------------|--------------------------|-------------------|
| jnobui        | Closure Report Approved. | 2/22/2023         |

Action 183547