State of New Mexico
Oil Conservation Division

Incident ID	NAPP2209731445
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __08/19/2022_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: Robert Hamlet Date: 11/23/2022

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

Closure Approved by: Robert Hamlet Date: 11/23/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2209731445
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Adrian Baker	Contact Telephone 432-236-3808
Contact email adrian.baker@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.54635 Longitude -103.85445
(NAD 83 in decimal degrees to 5 decimal places)

Site Name BEU 5E Han Solo 105H	Site Type Production Well
Date Release Discovered 03/24/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
G	27	20S	31E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) 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) Produced Water w/ FR	Volume/Weight Released (provide units) 15.00 BBLS	Volume/Weight Recovered (provide units) 4.00 BBLS

Cause of Release: During frac operations, a mechanical pop-off washed out, causing fluids to release both to containment and pad. A vacuum truck recovered fluids from containment. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2209731445
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

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

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

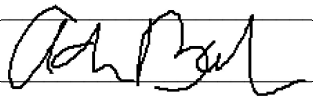
If all the actions described above have not been undertaken, explain why:

NA

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: Adrian Baker Title: SSHE Coordinator

Signature:  Date: 4/7/22

email: adrian.baker@exxonmobil.com Telephone: 432-236-3808

OCD Only

Received by: Jocelyn Harimon Date:

Location:	BEU 5E Han Solo 105H	
Spill Date:	3/24/2022	

Area 1		
Approximate Area =	22.46	cu. Ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	4.00	bbls
Area 2		
Approximate Area =	7056.00	sq. ft.
Average Saturation (or depth) of spill =	3.50	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	11.00	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**15.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**4.00**	**bbls**

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: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 96600
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	4/7/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2209731445
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?	50-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2209731445
District RP	
Facility ID	
Application ID	

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:_____ Date: ____08/19/2022_____

email: _garrett.green@exxonmobil.com_____ Telephone: ____575-200-0729_____

OCD Only

Received by: _____ Date: _____

Incident ID	NAPP2209731445
District RP	
Facility ID	
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Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __08/19/2022_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: _____ Date**:** _____

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

Closure Approved by: _____ Date**:** _____

Printed Name: _____ Title: _____

ENSOLUM

August 19, 2022

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

Re: Closure Request
BEU 5E Han Solo 105H
Incident Number NAPP2209731445
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment, excavation, and soil sampling activities at the BEU 5E Han Solo 105H (Site). The purpose of the site assessment and soil sampling activities was to address potential impacts to soil following a release of produced water with friction reducer at the Site. Based on the excavation activities and laboratory analytical results from the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting closure for Incident Number NAPP2209731445.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 27, Township 20 South, Range 31 East, in Eddy County, New Mexico (32.54635° N, 103.85445°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On March 24, 2022, a mechanical pop-off washed out during hydraulic fracturing operations resulting in the release of 15.0 barrels (bbls) of produced water, treated with friction reducer, into a temporary lined containment and onto the surface of the well pad. Produced water is recycled through filtering and separation, then mixed in a blender with friction reducer and used as hydraulic fracturing fluid during the well completion process. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 4.0 bbls of produced water were recovered from within the lined containment and the surface of the well pad. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on April 7, 2022. The release was assigned Incident Number NAPP2209731445.

The temporary liner was removed prior to beginning site assessment activities. As such, a liner inspection could not be completed. The release extent was identified based on information provided on the Form C-141 and visual observations.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be between 50 and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 323307103503901, located approximately 0.7 miles northeast of the Site. The groundwater well has a reported depth to groundwater of 77 feet bgs and a total depth of 156 feet bgs. Ground surface elevation at the groundwater well location is 3,510 feet above mean sea level (amsl), which is approximately 17 feet lower in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 7,974 feet east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

- 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

SITE ASSESSMENT ACTIVITIES

On May 24, 2022, Ensolum personnel visited the Site to evaluate the release extent. Four preliminary soil samples (SS01 through SS04) were collected within the release extent from a depth of approximately 0.5 feet bgs to assess the presence or absence of impacted soil. The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS04 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on visible staining in the release area, continued assessment activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On July 17, 2022, four potholes (PH01 through PH04) were advanced via backhoe within the release extent to a depth of 2 feet bgs. Delineation soil samples were collected from each pothole at depths of 1-foot and 2 feet bgs. In addition, four lateral delineation soil samples (SS05 through SS08) were collected around the visible release extent from a depth of 0.5 feet bgs to confirm the lateral extent of the release. Soil from the delineation activities was field screened for volatile aromatic hydrocarbons and chloride using a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The potholes and lateral delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for delineation pothole soil samples PH01/PH01A through PH04/PH04A and lateral delineation soil samples SS05 through SS08 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations are compliant with the Closure Criteria and compliant with the most stringent Table 1 Closure Criteria.

Soil was excavated from the release area in the area represented by preliminary soil sample SS03, which contained elevated chloride concentrations. Excavation activities were performed using a backhoe and transport vehicle. The excavation occurred on the well pad. To direct excavation activities, Ensolum personnel screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively.

Following removal of the soil, Ensolum personnel collected a 5-point composite soil sample representing the 190 square feet floor of the excavation. The 5-point composite sample was collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the sample by thoroughly mixing. Composite soil sample FS01 was collected from the floor of the excavation at a depth of 1 foot bgs. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into the floor sample. The excavation soil sample was collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample location are presented on Figure 4.

The final excavation extent measured approximately 190 square feet. A total of approximately 12 cubic yards of soil was removed during the excavation activities. The soil was transported and properly disposed of at the R360 Facility in Carlsbad, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for preliminary and delineation soil samples indicated benzene, BTEX, TPH-DRO/TPH-GRO, TPH, and chloride concentrations were compliant with the Closure Criteria and most samples were compliant with the most stringent Table 1 Closure Criteria. XTO excavated soil in one location with elevated chloride concentrations, and results from excavation floor soil sample FS01 were compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

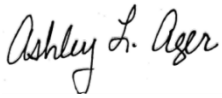
CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the March 24, 2022, release of produced water with friction reducer. Laboratory analytical results for delineation soil samples and the excavation soil sample indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. Notifications to NMOCD regarding sampling events are included in Attachment E. The safety data sheet (SDS) for friction reducer is provided in Appendix F.

Excavation of impacted soil has mitigated impacts exceeding the most stringent Table 1 Closure Criteria at this Site. Depth to groundwater has been estimated to be between 50 and 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2209731445.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Ben Belill
Project Geologist

Ashley L. Ager, M.S., P.G.
Program Director

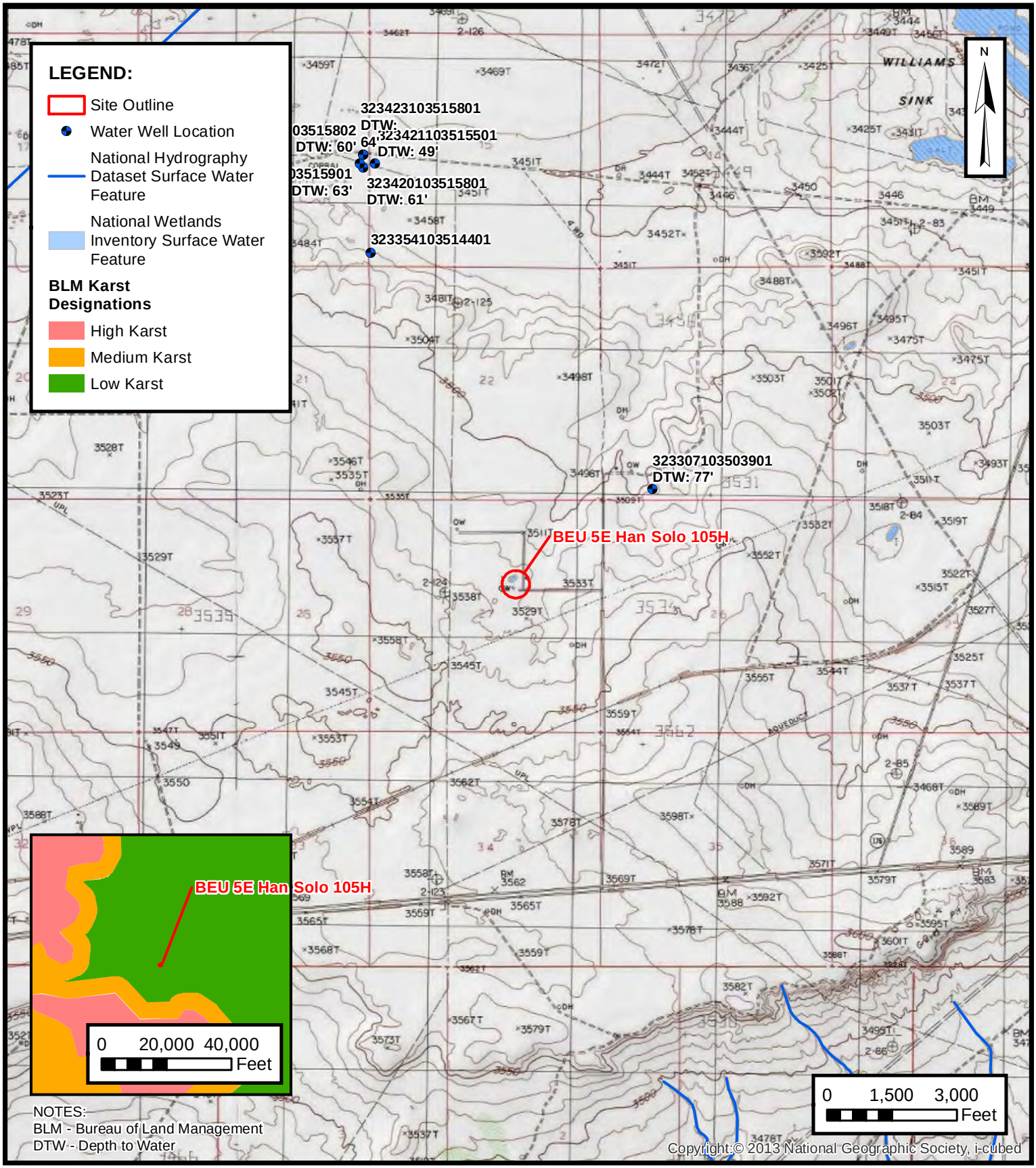
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic / Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Safety Data Sheet for Friction Reducer

ENSOLUM

FIGURES

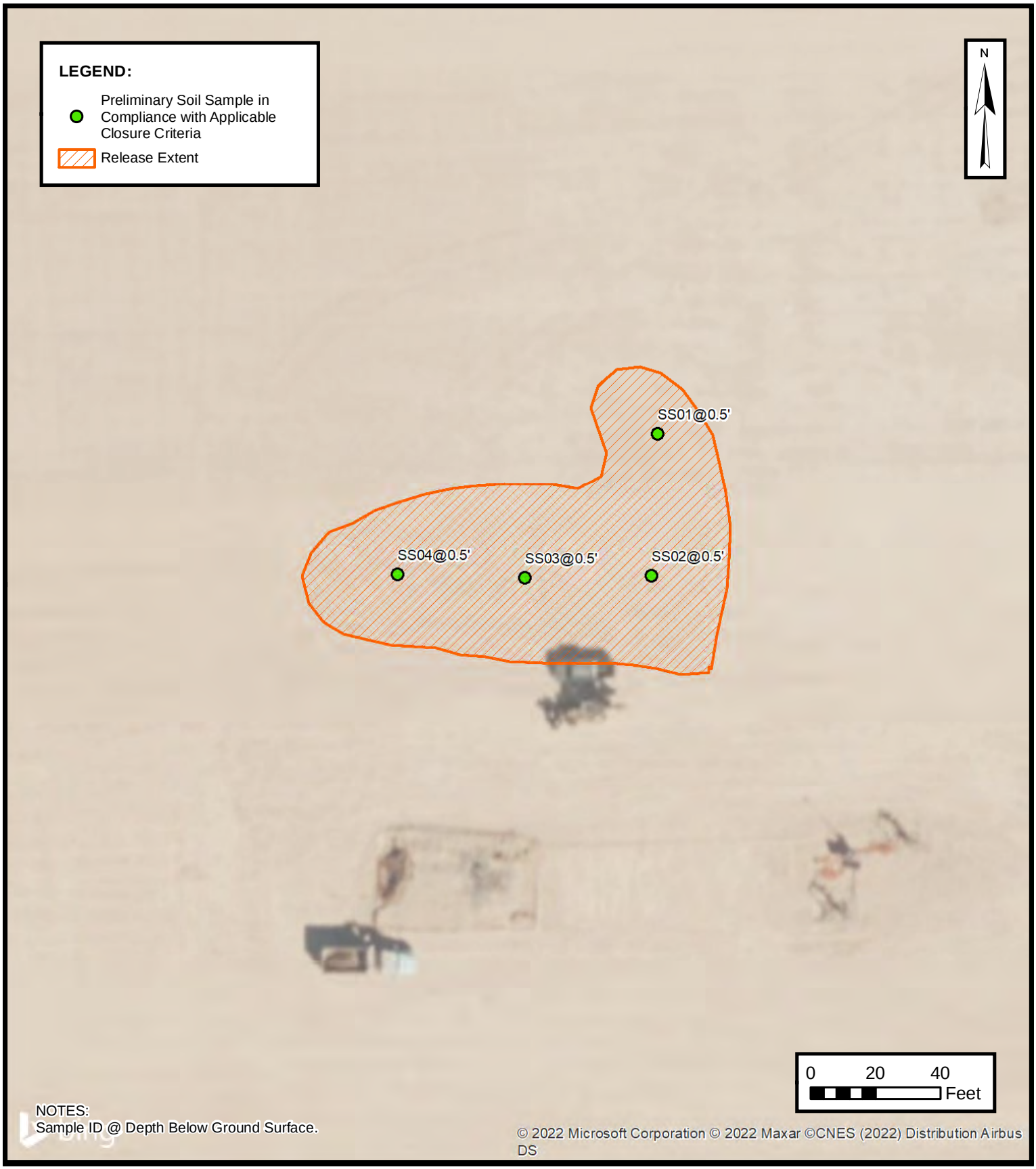


ENSOLUM
Environmental & Hydrogeologic Consultants

SITE RECEPTOR MAP

XTO ENERGY, INC
BEU 5E HAN SOLO 105H
NAPP2209731445
Unit G, Sec 27, T20S, R31E
Eddy County, New Mexico

FIGURE
1



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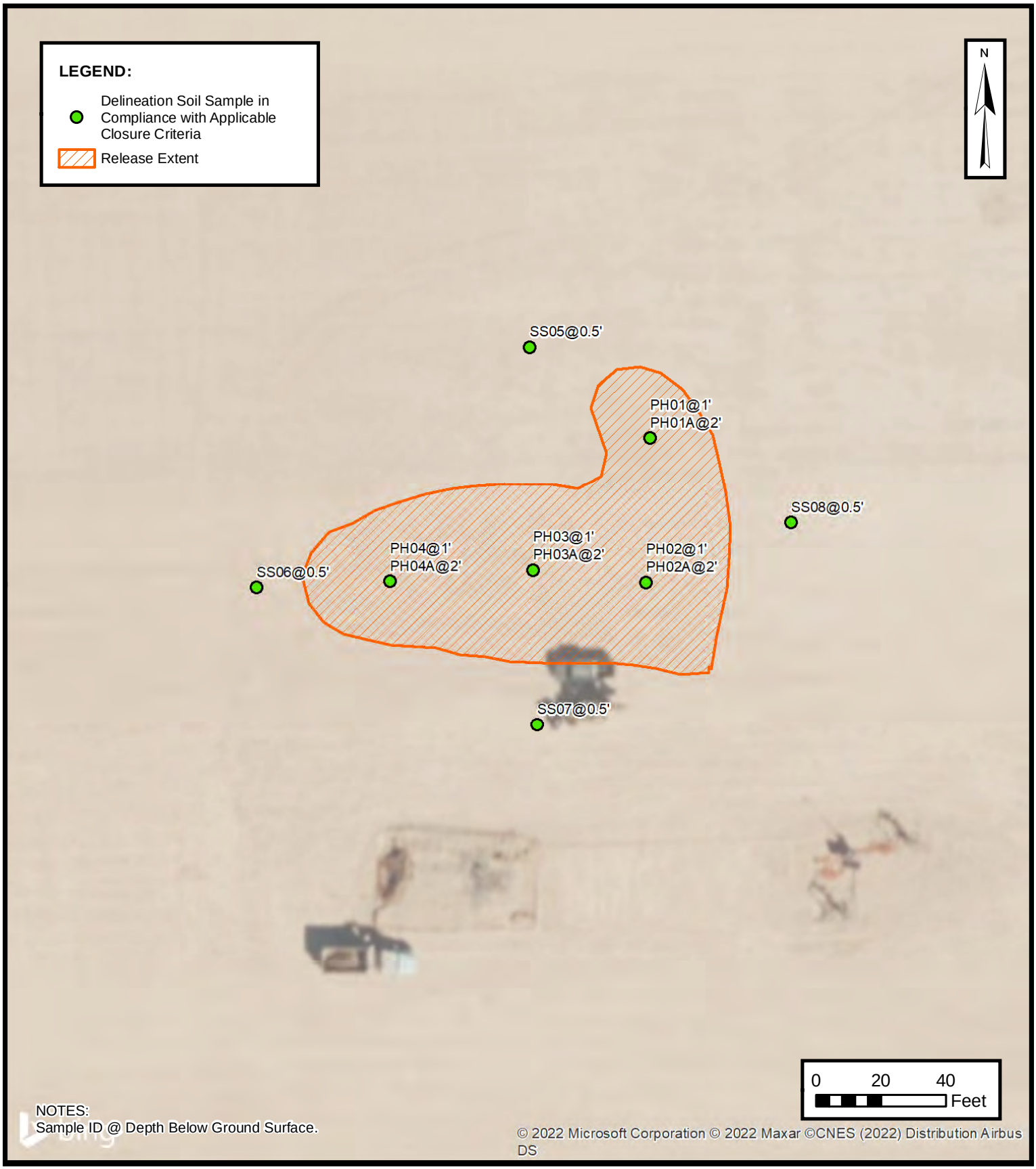
Environmental & Hydrogeologic Consultants

PRELIMINARY SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
BEU 5E HAN SOLO 105H
NAPP2209731445
Unit G, Sec 27, T20S, R31E
Eddy County, New Mexico

FIGURE
2

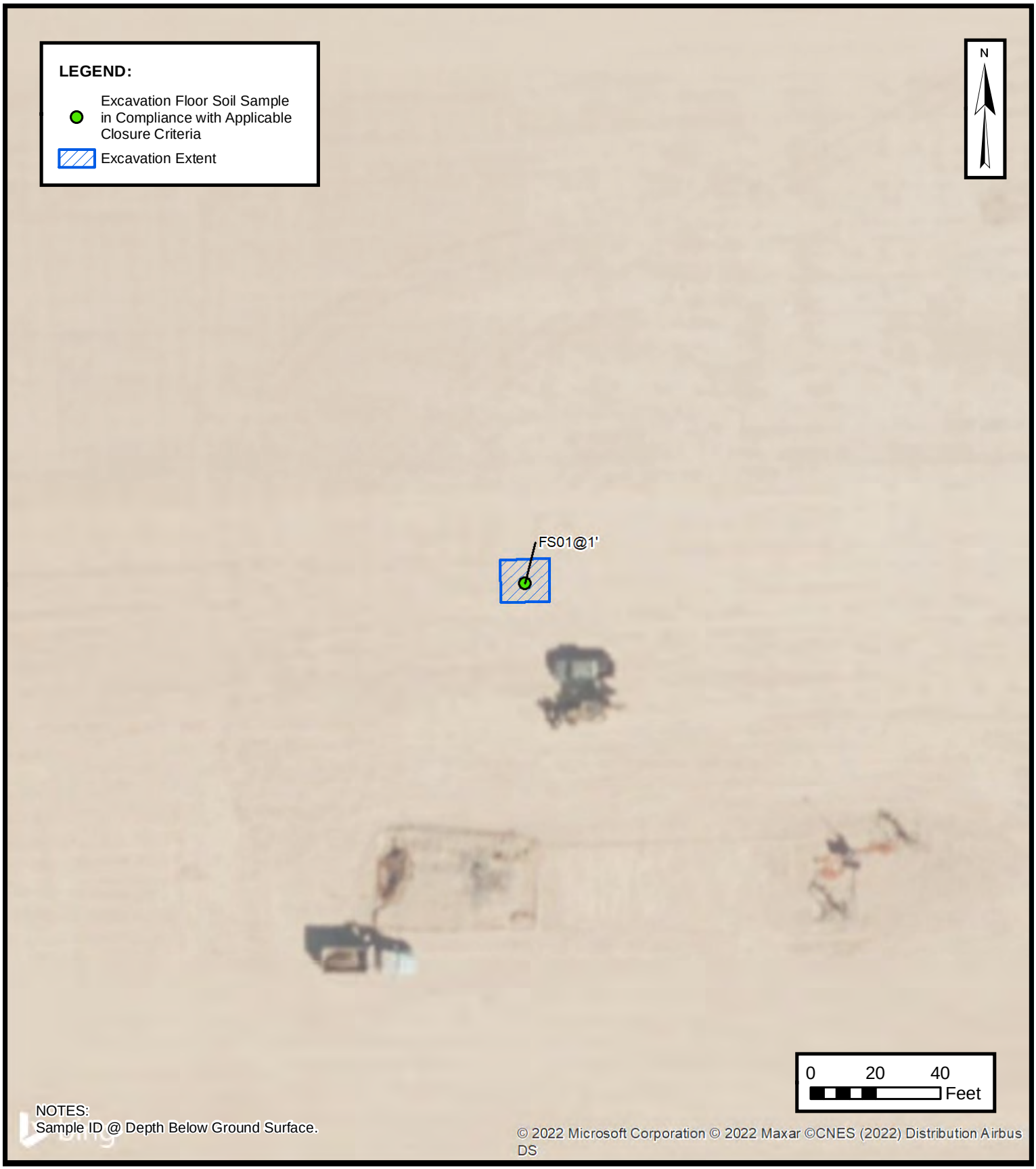


ENSOLUM
Environmental & Hydrogeologic Consultants

DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
BEU 5E HAN SOLO 105H
NAPP2209731445
Unit G, Sec 27, T20S, R31E
Eddy County, New Mexico

FIGURE
3



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Environmental & Hydrogeologic Consultants

EXCAVATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
BEU 5E HAN SOLO 105H
NAPP2209731445
Unit G, Sec 27, T20S, R31E
Eddy County, New Mexico

FIGURE
4

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TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
BEU 5E Han Solo 105H
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Preliminary Assessment Soil Samples										
SS01	05/24/2022	0.5	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	221
SS02	05/24/2022	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	485
SS03	05/24/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,570
SS04	05/24/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	476
Delineation Soil Samples										
PH01	07/19/2022	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	27.2
PH01A	07/19/2022	2	<0.00199	<0.00398	<50.0	83.6	<50.0	83.6	83.6	148
PH02	07/19/2022	1	<0.00200	<0.00399	<49.9	55.4	<49.9	55.4	55.4	173
PH02A	07/19/2022	2	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	152
PH03	07/19/2022	1	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	20.8
PH03A	07/19/2022	2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	76.3
PH04	07/19/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	34.6
PH04A	07/19/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	78.2
SS05	07/19/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	192
SS06	07/19/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	109
SS07	07/19/2022	0.5	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	138
SS08	07/19/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	146
Excavation Soil Samples										
FS01	07/19/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	284

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Grey text indicate soil sample removed during excavation activities

ENSOLUM

APPENDIX A

Referenced Well Records

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

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: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 323307103503901

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

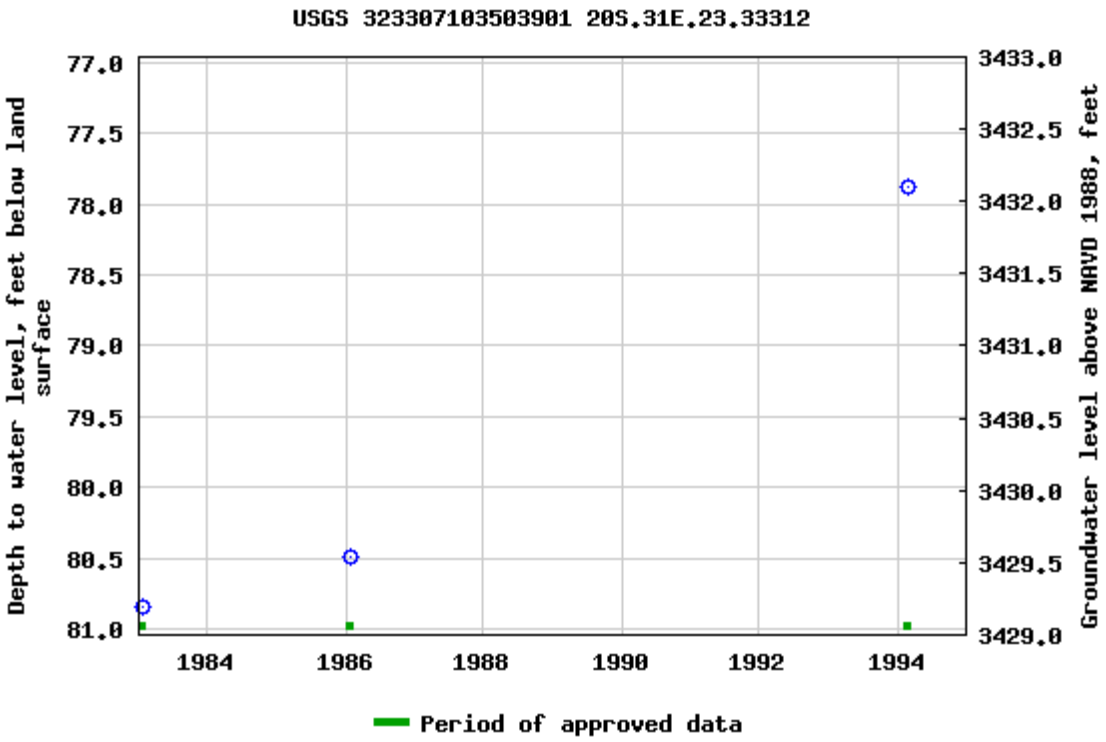
USGS 323307103503901 20S.31E.23.33312

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°33'07", Longitude 103°50'39" NAD27
Land-surface elevation 3,510 feet above NAVD88
The depth of the well is 156 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

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

Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-08-11 18:07:52 EDT
0.68 0.52 nadww01

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: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 323307103503901

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

USGS 323307103503901 20S.31E.23.33312

Eddy County, New Mexico
Latitude 32°33'07", Longitude 103°50'39" NAD27
Land-surface elevation 3,510 feet above NAVD88
The depth of the well is 156 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1983-01-20		D	62610		3427.56	NGVD29	1	Z		
1983-01-20		D	62611		3429.16	NAVD88	1	Z		
1983-01-20		D	72019	80.84			1	Z		
1986-01-22		D	62610		3427.91	NGVD29	1	Z		
1986-01-22		D	62611		3429.51	NAVD88	1	Z		
1986-01-22		D	72019	80.49			1	Z		
1994-03-02		D	62610		3430.52	NGVD29	1	S		
1994-03-02		D	62611		3432.12	NAVD88	1	S		
1994-03-02		D	72019	77.88			1	S		

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

Section	Code	Description
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	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

Accessibility FOIA Privacy Policies and Notices

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-08-11 18:08:31 EDT
0.26 0.23 nadww01

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
BEU 5E Han Solo 105H
Ensolum Job Number: 03E1558056

Photograph 1
Date: May 24, 2022
Description: Site Assessment Activities

Photograph 2
Date: July 19, 2022
Description: Delineation Activities

Photograph 3
Date: July 19, 2022
Description: Excavation Activities.

Photograph 4
Date: July 19, 2022
Description: Excavation Activities

ENSOLUM

APPENDIX C

Lithologic / Soil Sampling Logs

ENSOLUM	Sample Name: PH01	Date: 7/19/2022
	Site Name: BEU 5E Han Solo 105H	
	Incident Number: NAPP2209731445	
	Job Number: 03E1558056	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Backhoe
Coordinates: 32.546322, -103.854841	Hole Diameter: N/A	Total Depth: 2'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	<179.2	0.4	N	PH01	1'	1'	cche	0-1', CALICHE, dry, off white, unconsolidated, no stain, no odor. fill.
D	<179.2	0.0	N	PH01A	2'	2'	sp-sm	1'-2', SILTY SAND, dry, reddish brown, poorly graded, fine-very fine grained, no stain, no odor.
								Total Depth @ 2 feet bgs.

ENSOLUM

Sample Name: PH02	Date: 7/19/2022	
Site Name: BEU 5E Han Solo 105H		
Incident Number: NAPP2209731445		
Job Number: 03E1558056		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Backhoe
Coordinates: 32.546322, -103.854841	Hole Diameter: N/A	Total Depth: 2'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	201.6	0.0	N	PH02	1'	1'	cche	0-1', CALICHE, dry, off white, unconsolidated, no stain, no odor. fill.
D	<179.2	0.0	N	PH02A	2'	2'	sp-sm	1'-2', SILTY SAND, dry, reddish brown, poorly graded, fine-very fine grained, no stain, no odor.
								Total Depth @ 2 feet bgs.

ENSOLUM	Sample Name: PH03	Date: 7/19/2022
	Site Name: BEU 5E Han Solo 105H	
	Incident Number: NAPP2209731445	
	Job Number: 03E1558056	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Backhoe
Coordinates: 32.546322, -103.854841	Hole Diameter: N/A	Total Depth: 2'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	<179.2	5.2	N	PH03	1'	1'	cche	0-1', CALICHE, dry, off white, unconsolidated, no stain, no odor. fill.
D	<179.2	1.1	N	PH03A	2'	2'	sp-sm	1'-2', SILTY SAND, dry, reddish brown, poorly graded, fine-very fine grained, no stain, no odor.
								Total Depth @ 2 feet bgs.

ENSOLUM

	Sample Name: PH04	Date: 7/19/2022
	Site Name: BEU 5E Han Solo 105H	
	Incident Number: NAPP2209731445	
	Job Number: 03E1558056	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Conner Shore	Method: Backhoe
Coordinates: 32.546322, -103.854841	Hole Diameter: N/A	Total Depth: 2'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	<179.2	0.0	N	PH04	1'	1'	cche	0-1', CALICHE, dry, off white, unconsolidated, no stain, no odor. fill.
D	<179.2	0.1	N	PH04A	2'	2'	sp-sm	1'-2', SILTY SAND, dry, reddish brown, poorly graded, fine-very fine grained, no stain, no odor.
								Total Depth @ 2 feet bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2341-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E Han Solo 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
6/6/2022 11:53:25 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.

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Laboratory Job ID: 890-2341-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2341-1
Project/Site: BEU 5E Han Solo 105H SDG: 03E1558056

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Job ID: 890-2341-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2341-1

Receipt
The samples were received on 5/25/2022 2:24 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-26464 and analytical batch 880-26542 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
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS01

Lab Sample ID: 890-2341-1
Matrix: Solid
Date Collected: 05/24/22 13:30
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		05/27/22 15:07	05/31/22 14:16	1
Toluene	<0.00198	U	0.00198		mg/Kg		05/27/22 15:07	05/31/22 14:16	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		05/27/22 15:07	05/31/22 14:16	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		05/27/22 15:07	05/31/22 14:16	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		05/27/22 15:07	05/31/22 14:16	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		05/27/22 15:07	05/31/22 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*05/27/22 15:07*	*05/31/22 14:16*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*05/27/22 15:07*	*05/31/22 14:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			05/31/22 15:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:11*	*1*
o-Terphenyl	*112*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**221**		4.98		mg/Kg			05/29/22 23:08	1

Client Sample ID: SS02

Lab Sample ID: 890-2341-2
Matrix: Solid
Date Collected: 05/24/22 13:35
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		05/27/22 14:42	06/02/22 21:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		05/27/22 14:42	06/02/22 21:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		05/27/22 14:42	06/02/22 21:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		05/27/22 14:42	06/02/22 21:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		05/27/22 14:42	06/02/22 21:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		05/27/22 14:42	06/02/22 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*05/27/22 14:42*	*06/02/22 21:17*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS02

Lab Sample ID: 890-2341-2
Matrix: Solid
Date Collected: 05/24/22 13:35
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*05/27/22 14:42*	*06/02/22 21:17*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/31/22 15:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/28/22 01:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/28/22 01:32	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/28/22 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*88*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:32*	*1*
o-Terphenyl	*95*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**485**		4.97	mg/Kg			05/29/22 23:15	1

Client Sample ID: SS03

Lab Sample ID: 890-2341-3
Matrix: Solid
Date Collected: 05/24/22 13:40
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/03/22 09:28	06/03/22 16:57	1
Toluene	**0.00271**		0.00201	mg/Kg		06/03/22 09:28	06/03/22 16:57	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/03/22 09:28	06/03/22 16:57	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/03/22 09:28	06/03/22 16:57	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/03/22 09:28	06/03/22 16:57	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/03/22 09:28	06/03/22 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*06/03/22 09:28*	*06/03/22 16:57*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*06/03/22 09:28*	*06/03/22 16:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/31/22 15:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/31/22 09:45	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS03

Lab Sample ID: 890-2341-3
Matrix: Solid
Date Collected: 05/24/22 13:40
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:54	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:54*	*1*
o-Terphenyl	*99*		*70 - 130*	*05/27/22 11:19*	*05/28/22 01:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1570**		24.8		mg/Kg			05/29/22 23:21	5

Client Sample ID: SS04

Lab Sample ID: 890-2341-4
Matrix: Solid
Date Collected: 05/24/22 13:50
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		06/03/22 09:28	06/03/22 17:18	1
Toluene	<0.00201	U	0.00201		mg/Kg		06/03/22 09:28	06/03/22 17:18	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		06/03/22 09:28	06/03/22 17:18	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		06/03/22 09:28	06/03/22 17:18	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		06/03/22 09:28	06/03/22 17:18	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		06/03/22 09:28	06/03/22 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*06/03/22 09:28*	*06/03/22 17:18*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*06/03/22 09:28*	*06/03/22 17:18*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			05/31/22 15:29	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			05/31/22 09:45	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 02:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 02:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/27/22 11:19	05/28/22 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*05/27/22 11:19*	*05/28/22 02:16*	*1*
o-Terphenyl	*101*		*70 - 130*	*05/27/22 11:19*	*05/28/22 02:16*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS04

Date Collected: 05/24/22 13:50
Date Received: 05/25/22 14:24
Sample Depth: 0.5'

Lab Sample ID: 890-2341-4

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	476		5.00		mg/Kg			05/29/22 23:27	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-15244-A-5-D MS	Matrix Spike	95	103
880-15244-A-5-E MSD	Matrix Spike Duplicate	105	101
890-2341-1	SS01	99	105
890-2341-2	SS02	107	101
890-2341-3	SS03	103	99
890-2341-4	SS04	97	97
890-2346-A-1-E MS	Matrix Spike	101	100
890-2346-A-1-F MSD	Matrix Spike Duplicate	104	102
890-2351-A-5-D MS	Matrix Spike	95	102
890-2351-A-5-E MSD	Matrix Spike Duplicate	101	100
LCS 880-26459/1-A	Lab Control Sample	103	102
LCS 880-26464/1-A	Lab Control Sample	103	102
LCS 880-26788/1-A	Lab Control Sample	95	102
LCSD 880-26459/2-A	Lab Control Sample Dup	101	97
LCSD 880-26464/2-A	Lab Control Sample Dup	87	104
LCSD 880-26788/2-A	Lab Control Sample Dup	93	102
MB 880-26459/5-A	Method Blank	97	99
MB 880-26464/5-A	Method Blank	102	100
MB 880-26788/5-A	Method Blank	94	91

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2339-A-1-C MS	Matrix Spike	91	87
890-2339-A-1-D MSD	Matrix Spike Duplicate	86	83
890-2341-1	SS01	104	112
890-2341-2	SS02	88	95
890-2341-3	SS03	96	99
890-2341-4	SS04	95	101
LCS 880-26433/2-A	Lab Control Sample	101	100
LCSD 880-26433/3-A	Lab Control Sample Dup	102	104
MB 880-26433/1-A	Method Blank	103	119

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-26459/5-A
Matrix: Solid
Analysis Batch: 26715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26459

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/27/22 14:42	06/02/22 13:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/27/22 14:42	06/02/22 13:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/27/22 14:42	06/02/22 13:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/27/22 14:42	06/02/22 13:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/27/22 14:42	06/02/22 13:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/27/22 14:42	06/02/22 13:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/27/22 14:42*	*06/02/22 13:30*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*05/27/22 14:42*	*06/02/22 13:30*	*1*

Lab Sample ID: LCS 880-26459/1-A
Matrix: Solid
Analysis Batch: 26715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26459

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09188		mg/Kg		92	70 - 130		
Toluene			0.100	0.09692		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09289		mg/Kg		93	70 - 130		
m-Xylene & p-Xylene			0.200	0.2122		mg/Kg		106	70 - 130		
o-Xylene			0.100	0.1052		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-26459/2-A
Matrix: Solid
Analysis Batch: 26715

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26459

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08482		mg/Kg		85	70 - 130	8	35
Toluene			0.100	0.09263		mg/Kg		93	70 - 130	5	35
Ethylbenzene			0.100	0.08725		mg/Kg		87	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.1995		mg/Kg		100	70 - 130	6	35
o-Xylene			0.100	0.09854		mg/Kg		99	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 890-2346-A-1-E MS
Matrix: Solid
Analysis Batch: 26715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.08250		mg/Kg		82	70 - 130		
Toluene	<0.00201	U	0.100	0.08669		mg/Kg		87	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: 890-2346-A-1-E MS | **Client Sample ID: Matrix Spike**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 26715 | **Prep Batch: 26459**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.07650		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1705		mg/Kg		85	70 - 130
o-Xylene	<0.00201	U	0.100	0.08654		mg/Kg		86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-2346-A-1-F MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 26715 | **Prep Batch: 26459**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.08808		mg/Kg		88	70 - 130	7	35
Toluene	<0.00201	U	0.0996	0.09471		mg/Kg		95	70 - 130	9	35
Ethylbenzene	<0.00201	U	0.0996	0.08391		mg/Kg		84	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.1897		mg/Kg		95	70 - 130	11	35
o-Xylene	<0.00201	U	0.0996	0.09432		mg/Kg		95	70 - 130	9	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-26464/5-A | **Client Sample ID: Method Blank**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 26542 | **Prep Batch: 26464**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/27/22 15:07	05/31/22 13:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/27/22 15:07	05/31/22 13:12	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/27/22 15:07	05/31/22 13:12	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/27/22 15:07	05/31/22 13:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*05/27/22 15:07*	*05/31/22 13:12*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*05/27/22 15:07*	*05/31/22 13:12*	*1*

Lab Sample ID: LCS 880-26464/1-A | **Client Sample ID: Lab Control Sample**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 26542 | **Prep Batch: 26464**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09145		mg/Kg		91	70 - 130
Toluene	0.100	0.08551		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.09034		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1798		mg/Kg		90	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: LCS 880-26464/1-A
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26464

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.08334		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-26464/2-A
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26464

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1022		mg/Kg		102	70 - 130	11	35
Toluene			0.100	0.08769		mg/Kg		88	70 - 130	3	35
Ethylbenzene			0.100	0.09090		mg/Kg		91	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1731		mg/Kg		87	70 - 130	4	35
o-Xylene			0.100	0.07906		mg/Kg		79	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-15244-A-5-D MS
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.09274		mg/Kg		92	70 - 130		
Toluene	<0.00202	U	0.101	0.07569		mg/Kg		75	70 - 130		
Ethylbenzene	<0.00202	U F1	0.101	0.06897	F1	mg/Kg		68	70 - 130		
m-Xylene & p-Xylene	<0.00403	U F1	0.202	0.1325	F1	mg/Kg		66	70 - 130		
o-Xylene	<0.00202	U F1	0.101	0.06031	F1	mg/Kg		60	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-15244-A-5-E MSD
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0998	0.09451		mg/Kg		95	70 - 130	2	35
Toluene	<0.00202	U	0.0998	0.08715		mg/Kg		87	70 - 130	14	35
Ethylbenzene	<0.00202	U F1	0.0998	0.08866		mg/Kg		89	70 - 130	25	35
m-Xylene & p-Xylene	<0.00403	U F1	0.200	0.1739		mg/Kg		87	70 - 130	27	35
o-Xylene	<0.00202	U F1	0.0998	0.07883		mg/Kg		79	70 - 130	27	35

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: 880-15244-A-5-E MSD
Matrix: Solid
Analysis Batch: 26542

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26464

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: MB 880-26788/5-A
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26788

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/03/22 09:28	06/03/22 11:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/03/22 09:28	06/03/22 11:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/03/22 09:28	06/03/22 11:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/03/22 09:28	06/03/22 11:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/03/22 09:28	06/03/22 11:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/03/22 09:28	06/03/22 11:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130	06/03/22 09:28	06/03/22 11:47	1
1,4-Difluorobenzene (Surr)	91		70 - 130	06/03/22 09:28	06/03/22 11:47	1

Lab Sample ID: LCS 880-26788/1-A
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26788

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1033		mg/Kg		103	70 - 130		
Toluene			0.100	0.09719		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09928		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.1964		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09652		mg/Kg		97	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: LCSD 880-26788/2-A
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26788

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09572		mg/Kg		96	70 - 130	8	35
Toluene			0.100	0.09046		mg/Kg		90	70 - 130	7	35
Ethylbenzene			0.100	0.09188		mg/Kg		92	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1819		mg/Kg		91	70 - 130	8	35
o-Xylene			0.100	0.09004		mg/Kg		90	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: LCSD 880-26788/2-A
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26788

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-2351-A-5-D MS
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26788

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.09471		mg/Kg		95	70 - 130
Toluene	<0.00201	U	0.100	0.08831		mg/Kg		88	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.08780		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1725		mg/Kg		86	70 - 130
o-Xylene	<0.00201	U	0.100	0.08523		mg/Kg		85	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-2351-A-5-E MSD
Matrix: Solid
Analysis Batch: 26785

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26788

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.09536		mg/Kg		96	70 - 130	1	35
Toluene	<0.00201	U	0.0998	0.08928		mg/Kg		89	70 - 130	1	35
Ethylbenzene	<0.00201	U	0.0998	0.08779		mg/Kg		88	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1733		mg/Kg		87	70 - 130	0	35
o-Xylene	<0.00201	U	0.0998	0.08609		mg/Kg		86	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

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

Lab Sample ID: MB 880-26433/1-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26433

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/27/22 21:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/27/22 21:34	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/27/22 11:19	05/27/22 21:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130	05/27/22 11:19	05/27/22 21:34	1
o-Terphenyl	119		70 - 130	05/27/22 11:19	05/27/22 21:34	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: LCS 880-26433/2-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26433

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1020		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	956.6		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: LCSD 880-26433/3-A
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26433

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	928.2		mg/Kg		93	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	970.6		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 890-2339-A-1-C MS
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	881.3		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	803.2		mg/Kg		80	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-2339-A-1-D MSD
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	773.2		mg/Kg		76	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	776.1		mg/Kg		78	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

Lab Sample ID: 890-2339-A-1-D MSD
Matrix: Solid
Analysis Batch: 26398

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 26433

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	83		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-26324/1-A
Matrix: Solid
Analysis Batch: 26501

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			05/29/22 21:46	1

Lab Sample ID: LCS 880-26324/2-A
Matrix: Solid
Analysis Batch: 26501

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.0		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-26324/3-A
Matrix: Solid
Analysis Batch: 26501

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	257.7		mg/Kg		103	90 - 110	1	20

Lab Sample ID: 890-2338-A-1-B MS
Matrix: Solid
Analysis Batch: 26501

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	58.2		251	304.0		mg/Kg		98	90 - 110		

Lab Sample ID: 890-2338-A-1-C MSD
Matrix: Solid
Analysis Batch: 26501

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	58.2		251	304.4		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

GC VOA

Prep Batch: 26459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-2	SS02	Total/NA	Solid	5035	
MB 880-26459/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26459/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26459/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2346-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2346-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 26464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	5035	
MB 880-26464/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26464/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26464/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-15244-A-5-D MS	Matrix Spike	Total/NA	Solid	5035	
880-15244-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 26542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	8021B	26464
MB 880-26464/5-A	Method Blank	Total/NA	Solid	8021B	26464
LCS 880-26464/1-A	Lab Control Sample	Total/NA	Solid	8021B	26464
LCSD 880-26464/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26464
880-15244-A-5-D MS	Matrix Spike	Total/NA	Solid	8021B	26464
880-15244-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26464

Analysis Batch: 26590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	Total BTEX	
890-2341-2	SS02	Total/NA	Solid	Total BTEX	
890-2341-3	SS03	Total/NA	Solid	Total BTEX	
890-2341-4	SS04	Total/NA	Solid	Total BTEX	

Analysis Batch: 26715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-2	SS02	Total/NA	Solid	8021B	26459
MB 880-26459/5-A	Method Blank	Total/NA	Solid	8021B	26459
LCS 880-26459/1-A	Lab Control Sample	Total/NA	Solid	8021B	26459
LCSD 880-26459/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26459
890-2346-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	26459
890-2346-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26459

Analysis Batch: 26785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-3	SS03	Total/NA	Solid	8021B	26788
890-2341-4	SS04	Total/NA	Solid	8021B	26788
MB 880-26788/5-A	Method Blank	Total/NA	Solid	8021B	26788
LCS 880-26788/1-A	Lab Control Sample	Total/NA	Solid	8021B	26788
LCSD 880-26788/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	26788
890-2351-A-5-D MS	Matrix Spike	Total/NA	Solid	8021B	26788
890-2351-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	26788

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

GC VOA

Prep Batch: 26788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-3	SS03	Total/NA	Solid	5035	
890-2341-4	SS04	Total/NA	Solid	5035	
MB 880-26788/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-26788/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-26788/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2351-A-5-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2351-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 26398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	8015B NM	26433
890-2341-2	SS02	Total/NA	Solid	8015B NM	26433
890-2341-3	SS03	Total/NA	Solid	8015B NM	26433
890-2341-4	SS04	Total/NA	Solid	8015B NM	26433
MB 880-26433/1-A	Method Blank	Total/NA	Solid	8015B NM	26433
LCS 880-26433/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	26433
LCSD 880-26433/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	26433
890-2339-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	26433
890-2339-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	26433

Prep Batch: 26433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	8015NM Prep	
890-2341-2	SS02	Total/NA	Solid	8015NM Prep	
890-2341-3	SS03	Total/NA	Solid	8015NM Prep	
890-2341-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-26433/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-26433/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-26433/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2339-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2339-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 26554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Total/NA	Solid	8015 NM	
890-2341-2	SS02	Total/NA	Solid	8015 NM	
890-2341-3	SS03	Total/NA	Solid	8015 NM	
890-2341-4	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 26324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Soluble	Solid	DI Leach	
890-2341-2	SS02	Soluble	Solid	DI Leach	
890-2341-3	SS03	Soluble	Solid	DI Leach	
890-2341-4	SS04	Soluble	Solid	DI Leach	
MB 880-26324/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-26324/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-26324/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

HPLC/IC (Continued)

Leach Batch: 26324 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2338-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2338-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 26501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2341-1	SS01	Soluble	Solid	300.0	26324
890-2341-2	SS02	Soluble	Solid	300.0	26324
890-2341-3	SS03	Soluble	Solid	300.0	26324
890-2341-4	SS04	Soluble	Solid	300.0	26324
MB 880-26324/1-A	Method Blank	Soluble	Solid	300.0	26324
LCS 880-26324/2-A	Lab Control Sample	Soluble	Solid	300.0	26324
LCSD 880-26324/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	26324
890-2338-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	26324
890-2338-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	26324

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS01

Lab Sample ID: 890-2341-1
Matrix: Solid
Date Collected: 05/24/22 13:30
Date Received: 05/25/22 14:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	26464	05/27/22 15:07	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26542	05/31/22 14:16	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26590	05/31/22 15:29	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26554	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 01:11	SM	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/29/22 23:08	SC	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-2341-2
Matrix: Solid
Date Collected: 05/24/22 13:35
Date Received: 05/25/22 14:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	26459	05/27/22 14:42	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26715	06/02/22 21:17	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26590	05/31/22 15:29	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26554	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 01:32	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/29/22 23:15	SC	XEN MID

Client Sample ID: SS03

Lab Sample ID: 890-2341-3
Matrix: Solid
Date Collected: 05/24/22 13:40
Date Received: 05/25/22 14:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	26788	06/03/22 09:28	MR	XEN MID
Total/NA	Analysis	8021B		1	0 mL	1.0 mL	26785	06/03/22 16:57	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26590	05/31/22 15:29	SM	XEN MID
Total/NA	Analysis	8015 NM		1			26554	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 01:54	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		5			26501	05/29/22 23:21	SC	XEN MID

Client Sample ID: SS04

Lab Sample ID: 890-2341-4
Matrix: Solid
Date Collected: 05/24/22 13:50
Date Received: 05/25/22 14:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	26788	06/03/22 09:28	MR	XEN MID
Total/NA	Analysis	8021B		1	0 mL	1.0 mL	26785	06/03/22 17:18	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			26590	05/31/22 15:29	SM	XEN MID

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Client Sample ID: SS04

Date Collected: 05/24/22 13:50
Date Received: 05/25/22 14:24

Lab Sample ID: 890-2341-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			26554	05/31/22 09:45	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26433	05/27/22 11:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26398	05/28/22 02:16	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	26324	05/27/22 12:50	SC	XEN MID
Soluble	Analysis	300.0		1			26501	05/29/22 23:27	SC	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E Han Solo 105H

Job ID: 890-2341-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2341-1	SS01	Solid	05/24/22 13:30	05/25/22 14:24	0.5'
890-2341-2	SS02	Solid	05/24/22 13:35	05/25/22 14:24	0.5'
890-2341-3	SS03	Solid	05/24/22 13:40	05/25/22 14:24	0.5'
890-2341-4	SS04	Solid	05/24/22 13:50	05/25/22 14:24	0.5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum LLC.	Company Name:	XTO Energy, Inc.
Address:		Address:	3104 E. Green Street
City, State ZIP:		City, State ZIP:	Carlsbad, NM 88220
Phone:	989.854.0852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E Han Solo 105H	Turn Around	
Project Number:	03E1558056	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	WW-05
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

None: NO; DI Water: H_2O
Cool: Cool; MeOH: Me
HCL: HC; HNO_3: HN
H_2S0_4: H_2; NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	s	05.24.22	1330	0.5'	G	1		x	x	x
SS02	s	05.24.22	1335	0.5'	G	1		x	x	x
SS03	s	05.24.22	1340	0.5'	G	1		x	x	x
SS04	s	05.24.22	1350	0.5'	G	1		x	x	x

ANALYSIS REQUEST — Parameters

Sample Comments

Incident ID: nAPP2209731445
Cost Center:
AFE:

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		5.25.22 1424			
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2341-1
SDG Number: 03E1558056

Login Number: 2341
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2341-1
SDG Number: 03E1558056

Login Number: 2341
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 05/27/22 10:54 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2588-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 10:28:27 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2588-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Job ID: 890-2588-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2588-1

Receipt
The sample was received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30263 and analytical batch 880-30484 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.

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 880-30312 and analytical batch 880-30251 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-30312/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS05 (890-2588-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Client Sample ID: SS05

Date Collected: 07/19/22 13:25
Date Received: 07/19/22 15:58
Sample Depth: 0.5

Lab Sample ID: 890-2588-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F2 F1	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:28	1
Toluene	<0.00200	U F1	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:28	1
Ethylbenzene	<0.00200	U F2 F1	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:28	1
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.00399		mg/Kg		07/21/22 13:27	07/25/22 01:28	1
o-Xylene	<0.00200	U F2 F1	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:28	1
Xylenes, Total	<0.00399	U F2 F1	0.00399		mg/Kg		07/21/22 13:27	07/25/22 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:28*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:28*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/25/22 10:43	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/22/22 11:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 09:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 09:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 09:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*28*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 09:09*	*1*
o-Terphenyl	*26*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 09:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**192**		5.02		mg/Kg			07/25/22 00:02	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2588-1	SS05	96	81
890-2588-1 MS	SS05	124	86
890-2588-1 MSD	SS05	96	94
LCS 880-30263/1-A	Lab Control Sample	107	93
LCSD 880-30263/2-A	Lab Control Sample Dup	105	92
MB 880-30263/5-A	Method Blank	103	84
MB 880-30478/5-A	Method Blank	98	86

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17068-A-41-D MS	Matrix Spike	84	83
880-17068-A-41-E MSD	Matrix Spike Duplicate	85	84
890-2588-1	SS05	28 S1-	26 S1-
LCS 880-30312/2-A	Lab Control Sample	135 S1+	142 S1+
LCSD 880-30312/3-A	Lab Control Sample Dup	116	127
MB 880-30312/1-A	Method Blank	128	146 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30263/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30263

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*

Lab Sample ID: LCS 880-30263/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1021		mg/Kg		102	70 - 130		
Toluene			0.100	0.1045		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2212		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1237		mg/Kg		124	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-30263/2-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08838		mg/Kg		88	70 - 130	14	35
Toluene			0.100	0.09280		mg/Kg		93	70 - 130	12	35
Ethylbenzene			0.100	0.09635		mg/Kg		96	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1949		mg/Kg		97	70 - 130	13	35
o-Xylene			0.100	0.1089		mg/Kg		109	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2588-1 MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F2 F1	0.100	0.02542	F1	mg/Kg		25	70 - 130		
Toluene	<0.00200	U F1	0.100	0.03588	F1	mg/Kg		34	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

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

Lab Sample ID: 890-2588-1 MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F2 F1	0.100	0.04162	F1	mg/Kg		41	70 - 130
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.200	0.08704	F1	mg/Kg		43	70 - 130
o-Xylene	<0.00200	U F2 F1	0.100	0.05151	F1	mg/Kg		51	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-2588-1 MSD
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: SS05
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.0990	0.01645	F2 F1	mg/Kg		17	70 - 130	43	35
Toluene	<0.00200	U F1	0.0990	0.02796	F1	mg/Kg		27	70 - 130	25	35
Ethylbenzene	<0.00200	U F2 F1	0.0990	0.02785	F2 F1	mg/Kg		27	70 - 130	40	35
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.198	0.05748	F2 F1	mg/Kg		28	70 - 130	41	35
o-Xylene	<0.00200	U F2 F1	0.0990	0.03580	F2 F1	mg/Kg		36	70 - 130	36	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30478/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30478

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*

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

Lab Sample ID: MB 880-30312/1-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30312

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/21/22 17:20	07/22/22 00:07	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30312/1-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30312

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*

Lab Sample ID: LCS 880-30312/2-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30312

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	880.1		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1131		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*135*	*S1+*	*70 - 130*
o-Terphenyl	*142*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-30312/3-A
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30312

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	807.8		mg/Kg		81	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	996.6		mg/Kg		100	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: 880-17068-A-41-D MS
Matrix: Solid
Analysis Batch: 30251

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	907.6		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	796.3		mg/Kg		80	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

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

Lab Sample ID: 880-17068-A-41-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	917.2		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	807.5		mg/Kg		81	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 880-17194-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	948		250	1174		mg/Kg		91	90 - 110		

Lab Sample ID: 880-17194-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	948		250	1184		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

GC VOA

Prep Batch: 30263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	5035	
MB 880-30263/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2588-1 MS	SS05	Total/NA	Solid	5035	
890-2588-1 MSD	SS05	Total/NA	Solid	5035	

Prep Batch: 30478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30478/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	8021B	30263
MB 880-30263/5-A	Method Blank	Total/NA	Solid	8021B	30263
MB 880-30478/5-A	Method Blank	Total/NA	Solid	8021B	30478
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	8021B	30263
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30263
890-2588-1 MS	SS05	Total/NA	Solid	8021B	30263
890-2588-1 MSD	SS05	Total/NA	Solid	8021B	30263

Analysis Batch: 30551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	8015B NM	30312
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015B NM	30312
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30312
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30312
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30312
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30312

Prep Batch: 30312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2588-1	SS05	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30245
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Client Sample ID: SS05

Date Collected: 07/19/22 13:25
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2588-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30263	07/21/22 13:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30484	07/25/22 01:28	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30551	07/25/22 10:43	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30386	07/22/22 11:07	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30312	07/21/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30251	07/22/22 09:09	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 00:02	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2588-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2588-1	SS05	Solid	07/19/22 13:25	07/19/22 15:58	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	
Project Number:	03E1558056	☑ Routine ☐ Rush	
Project Location:	EDDY COUNTY, NM	Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank: Yes No	Wet Ice: Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR-07
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
SS05	S	7/19/2022	1325	0.5'	Grab/	1		X	X	X

ANALYSIS REQUEST

890-2588 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	7/19/22 1350			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2588-1
SDG Number: 03E1558056

Login Number: 2588
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2588-1
SDG Number: 03E1558056

Login Number: 2588
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2589-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

Jkramer

Authorized for release by:
7/25/2022 10:28:27 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2589-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2589-1
Project/Site: BEU 5E HAN SOLO 105H SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Job ID: 890-2589-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2589-1

Receipt
The sample was received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30263 and analytical batch 880-30484 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.

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 880-30311 and analytical batch 880-30249 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.

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Client Sample ID: SS06

Date Collected: 07/13/22 13:30
Date Received: 07/19/22 15:58
Sample Depth: 0.5

Lab Sample ID: 890-2589-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 13:27	07/25/22 01:48	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 13:27	07/25/22 01:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 13:27	07/25/22 01:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 13:27	07/25/22 01:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/21/22 13:27	07/25/22 01:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 13:27	07/25/22 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:48*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:48*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/25/22 10:43	1

Method: 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			07/22/22 11:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/21/22 17:17	07/22/22 06:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/21/22 17:17	07/22/22 06:21	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/21/22 17:17	07/22/22 06:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*07/21/22 17:17*	*07/22/22 06:21*	*1*
o-Terphenyl	*121*		*70 - 130*	*07/21/22 17:17*	*07/22/22 06:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**109**		4.97		mg/Kg			07/25/22 00:10	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
890-2588-A-1-D MS	Matrix Spike	124	86										
890-2588-A-1-E MSD	Matrix Spike Duplicate	96	94										
890-2589-1	SS06	116	83										
LCS 880-30263/1-A	Lab Control Sample	107	93										
LCSD 880-30263/2-A	Lab Control Sample Dup	105	92										
MB 880-30263/5-A	Method Blank	103	84										
MB 880-30478/5-A	Method Blank	98	86										

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
890-2587-A-1-D MS	Matrix Spike	85	92										
890-2587-A-1-E MSD	Matrix Spike Duplicate	84	90										
890-2589-1	SS06	109	121										
LCS 880-30311/2-A	Lab Control Sample	106	124										
LCSD 880-30311/3-A	Lab Control Sample Dup	101	117										
MB 880-30311/1-A	Method Blank	147 S1+	175 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30263/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30263

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*

Lab Sample ID: LCS 880-30263/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1021		mg/Kg		102	70 - 130		
Toluene			0.100	0.1045		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2212		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1237		mg/Kg		124	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-30263/2-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08838		mg/Kg		88	70 - 130	14	35
Toluene			0.100	0.09280		mg/Kg		93	70 - 130	12	35
Ethylbenzene			0.100	0.09635		mg/Kg		96	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1949		mg/Kg		97	70 - 130	13	35
o-Xylene			0.100	0.1089		mg/Kg		109	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2588-A-1-D MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F2 F1	0.100	0.02542	F1	mg/Kg		25	70 - 130		
Toluene	<0.00200	U F1	0.100	0.03588	F1	mg/Kg		34	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

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

Lab Sample ID: 890-2588-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F2 F1	0.100	0.04162	F1	mg/Kg		41	70 - 130
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.200	0.08704	F1	mg/Kg		43	70 - 130
o-Xylene	<0.00200	U F2 F1	0.100	0.05151	F1	mg/Kg		51	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-2588-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.0990	0.01645	F2 F1	mg/Kg		17	70 - 130	43	35
Toluene	<0.00200	U F1	0.0990	0.02796	F1	mg/Kg		27	70 - 130	25	35
Ethylbenzene	<0.00200	U F2 F1	0.0990	0.02785	F2 F1	mg/Kg		27	70 - 130	40	35
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.198	0.05748	F2 F1	mg/Kg		28	70 - 130	41	35
o-Xylene	<0.00200	U F2 F1	0.0990	0.03580	F2 F1	mg/Kg		36	70 - 130	36	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30478/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30478**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*

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

Lab Sample ID: MB 880-30311/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30249 — **Prep Batch: 30311**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/21/22 17:17	07/22/22 00:07	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30311/1-A
Matrix: Solid
Analysis Batch: 30249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30311

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/21/22 17:17	07/22/22 00:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/21/22 17:17	07/22/22 00:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*07/21/22 17:17*	*07/22/22 00:07*	*1*
o-Terphenyl	*175*	*S1+*	*70 - 130*	*07/21/22 17:17*	*07/22/22 00:07*	*1*

Lab Sample ID: LCS 880-30311/2-A
Matrix: Solid
Analysis Batch: 30249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30311

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1172		mg/Kg		117	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	984.1		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*124*		*70 - 130*

Lab Sample ID: LCSD 880-30311/3-A
Matrix: Solid
Analysis Batch: 30249

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30311

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1181		mg/Kg		118	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	974.2		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: 890-2587-A-1-D MS
Matrix: Solid
Analysis Batch: 30249

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30311

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1292		mg/Kg		129	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	828.7		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

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

Lab Sample ID: 890-2587-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30249 — **Prep Batch: 30311**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1249		mg/Kg		125	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	808.9		mg/Kg		79	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*90*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 880-17194-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	948		250	1174		mg/Kg		91	90 - 110		

Lab Sample ID: 880-17194-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	948		250	1184		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

GC VOA

Prep Batch: 30263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	5035	
MB 880-30263/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30478/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	8021B	30263
MB 880-30263/5-A	Method Blank	Total/NA	Solid	8021B	30263
MB 880-30478/5-A	Method Blank	Total/NA	Solid	8021B	30478
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	8021B	30263
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30263
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	30263
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30263

Analysis Batch: 30552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	8015B NM	30311
MB 880-30311/1-A	Method Blank	Total/NA	Solid	8015B NM	30311
LCS 880-30311/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30311
LCSD 880-30311/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30311
890-2587-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30311
890-2587-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30311

Prep Batch: 30311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-30311/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30311/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30311/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2587-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2587-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2589-1	SS06	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30245
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Client Sample ID: SS06

Date Collected: 07/13/22 13:30
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2589-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30263	07/21/22 13:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30484	07/25/22 01:48	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30552	07/25/22 10:43	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30393	07/22/22 11:22	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30311	07/21/22 17:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30249	07/22/22 06:21	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 00:10	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2589-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2589-1	SS06	Solid	07/13/22 13:30	07/19/22 15:58	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2S0_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS06	S	7/19/2022	1330	0.5'	Grab/	1		X	X	X	Cost Center: 1568871001
											Incident ID:NAPP2209731445

890-2589 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7/19/22 1558	4		
3			6		
5					

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2589-1
SDG Number: 03E1558056

Login Number: 2589
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2589-1
SDG Number: 03E1558056

Login Number: 2589
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2591-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/25/2022 10:28:52 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2591-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2591-1
Project/Site: BEU 5E HAN SOLO 105H SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Job ID: 890-2591-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2591-1

Receipt
The sample was received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30263 and analytical batch 880-30484 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.

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 880-30312 and analytical batch 880-30251 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-30312/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS07 (890-2591-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Client Sample ID: SS07

Date Collected: 07/19/22 13:35
Date Received: 07/19/22 15:58
Sample Depth: 0.5

Lab Sample ID: 890-2591-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/21/22 13:27	07/25/22 02:09	1
Toluene	**0.00205**		0.00202		mg/Kg		07/21/22 13:27	07/25/22 02:09	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/21/22 13:27	07/25/22 02:09	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		07/21/22 13:27	07/25/22 02:09	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/21/22 13:27	07/25/22 02:09	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		07/21/22 13:27	07/25/22 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*07/21/22 13:27*	*07/25/22 02:09*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*07/21/22 13:27*	*07/25/22 02:09*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			07/25/22 10:43	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			07/22/22 11:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 09:31	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 09:31	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		07/21/22 17:20	07/22/22 09:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*3*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 09:31*	*1*
o-Terphenyl	*0.3*	*S1-*	*70 - 130*	*07/21/22 17:20*	*07/22/22 09:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**138**		5.04		mg/Kg			07/25/22 00:34	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2588-A-1-D MS	Matrix Spike	124	86
890-2588-A-1-E MSD	Matrix Spike Duplicate	96	94
890-2591-1	SS07	92	76
LCS 880-30263/1-A	Lab Control Sample	107	93
LCSD 880-30263/2-A	Lab Control Sample Dup	105	92
MB 880-30263/5-A	Method Blank	103	84
MB 880-30478/5-A	Method Blank	98	86

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17068-A-41-D MS	Matrix Spike	84	83
880-17068-A-41-E MSD	Matrix Spike Duplicate	85	84
890-2591-1	SS07	3 S1-	0.3 S1-
LCS 880-30312/2-A	Lab Control Sample	135 S1+	142 S1+
LCSD 880-30312/3-A	Lab Control Sample Dup	116	127
MB 880-30312/1-A	Method Blank	128	146 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30263/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30263

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*

Lab Sample ID: LCS 880-30263/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1021		mg/Kg		102	70 - 130		
Toluene			0.100	0.1045		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2212		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1237		mg/Kg		124	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-30263/2-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08838		mg/Kg		88	70 - 130	14	35
Toluene			0.100	0.09280		mg/Kg		93	70 - 130	12	35
Ethylbenzene			0.100	0.09635		mg/Kg		96	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1949		mg/Kg		97	70 - 130	13	35
o-Xylene			0.100	0.1089		mg/Kg		109	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2588-A-1-D MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F2 F1	0.100	0.02542	F1	mg/Kg		25	70 - 130		
Toluene	<0.00200	U F1	0.100	0.03588	F1	mg/Kg		34	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

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

Lab Sample ID: 890-2588-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F2 F1	0.100	0.04162	F1	mg/Kg		41	70 - 130
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.200	0.08704	F1	mg/Kg		43	70 - 130
o-Xylene	<0.00200	U F2 F1	0.100	0.05151	F1	mg/Kg		51	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-2588-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.0990	0.01645	F2 F1	mg/Kg		17	70 - 130	43	35
Toluene	<0.00200	U F1	0.0990	0.02796	F1	mg/Kg		27	70 - 130	25	35
Ethylbenzene	<0.00200	U F2 F1	0.0990	0.02785	F2 F1	mg/Kg		27	70 - 130	40	35
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.198	0.05748	F2 F1	mg/Kg		28	70 - 130	41	35
o-Xylene	<0.00200	U F2 F1	0.0990	0.03580	F2 F1	mg/Kg		36	70 - 130	36	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30478/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30478**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*

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

Lab Sample ID: MB 880-30312/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/21/22 17:20	07/22/22 00:07	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30312/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/21/22 17:20	07/22/22 00:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*07/21/22 17:20*	*07/22/22 00:07*	*1*

Lab Sample ID: LCS 880-30312/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	880.1		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1131		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*135*	*S1+*	*70 - 130*
o-Terphenyl	*142*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-30312/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	807.8		mg/Kg		81	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	996.6		mg/Kg		100	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: 880-17068-A-41-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	907.6		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	796.3		mg/Kg		80	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

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

Lab Sample ID: 880-17068-A-41-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30251 — **Prep Batch: 30312**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	917.2		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	807.5		mg/Kg		81	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 880-17194-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	948		250	1174		mg/Kg		91	90 - 110		

Lab Sample ID: 880-17194-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	948		250	1184		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

GC VOA

Prep Batch: 30263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	5035	
MB 880-30263/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30478/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	8021B	30263
MB 880-30263/5-A	Method Blank	Total/NA	Solid	8021B	30263
MB 880-30478/5-A	Method Blank	Total/NA	Solid	8021B	30478
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	8021B	30263
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30263
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	30263
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30263

Analysis Batch: 30553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 30251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	8015B NM	30312
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015B NM	30312
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30312
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30312
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30312
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30312

Prep Batch: 30312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	8015NM Prep	
MB 880-30312/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30312/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30312/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17068-A-41-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17068-A-41-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2591-1	SS07	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30245
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Client Sample ID: SS07

Date Collected: 07/19/22 13:35
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2591-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	30263	07/21/22 13:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30484	07/25/22 02:09	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30553	07/25/22 10:43	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30387	07/22/22 11:07	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	30312	07/21/22 17:20	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30251	07/22/22 09:31	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 00:34	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2591-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2591-1	SS07	Solid	07/19/22 13:35	07/19/22 15:58	0.5

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR-20
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.1
Total Containers:		Corrected Temperature:	2.9

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS07	S	7/19/2022	1325	0.5'	Grab/	1		X	X	X	Cost Center: 1568871001
											Incident ID:NAPP2209731445

890-2591 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda S.	7/19/22 1558			
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2591-1
SDG Number: 03E1558056

Login Number: 2591
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2591-1
SDG Number: 03E1558056

Login Number: 2591
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2593-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 8:18:15 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2593-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Job ID: 890-2593-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2593-1

Receipt
The sample was received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30263 and analytical batch 880-30484 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.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Client Sample ID: SS08

Date Collected: 07/19/22 13:40
Date Received: 07/19/22 15:58
Sample Depth: 0.5

Lab Sample ID: 890-2593-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 02:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 02:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 02:29	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/21/22 13:27	07/25/22 02:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 02:29	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/21/22 13:27	07/25/22 02:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/21/22 13:27*	*07/25/22 02:29*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*07/21/22 13:27*	*07/25/22 02:29*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/25/22 10:43	1

Method: 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			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 13:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 13:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*07/25/22 16:23*	*07/26/22 13:22*	*1*
o-Terphenyl	*118*		*70 - 130*	*07/25/22 16:23*	*07/26/22 13:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		5.04		mg/Kg			07/25/22 00:42	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2588-A-1-D MS	Matrix Spike	124	86										
890-2588-A-1-E MSD	Matrix Spike Duplicate	96	94										
890-2593-1	SS08	109	75										
LCS 880-30263/1-A	Lab Control Sample	107	93										
LCSD 880-30263/2-A	Lab Control Sample Dup	105	92										
MB 880-30263/5-A	Method Blank	103	84										
MB 880-30478/5-A	Method Blank	98	86										

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-17280-A-18-D MS	Matrix Spike	88	94										
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92										
890-2593-1	SS08	106	118										
LCS 880-30622/2-A	Lab Control Sample	102	114										
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104										
MB 880-30622/1-A	Method Blank	98	110										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30263/5-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30263

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 13:27	07/25/22 01:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 13:27	07/25/22 01:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/21/22 13:27*	*07/25/22 01:06*	*1*

Lab Sample ID: LCS 880-30263/1-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1021		mg/Kg		102	70 - 130		
Toluene			0.100	0.1045		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1094		mg/Kg		109	70 - 130		
m-Xylene & p-Xylene			0.200	0.2212		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1237		mg/Kg		124	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-30263/2-A
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30263

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08838		mg/Kg		88	70 - 130	14	35
Toluene			0.100	0.09280		mg/Kg		93	70 - 130	12	35
Ethylbenzene			0.100	0.09635		mg/Kg		96	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1949		mg/Kg		97	70 - 130	13	35
o-Xylene			0.100	0.1089		mg/Kg		109	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 890-2588-A-1-D MS
Matrix: Solid
Analysis Batch: 30484

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30263

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F2 F1	0.100	0.02542	F1	mg/Kg		25	70 - 130		
Toluene	<0.00200	U F1	0.100	0.03588	F1	mg/Kg		34	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

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

Lab Sample ID: 890-2588-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F2 F1	0.100	0.04162	F1	mg/Kg		41	70 - 130
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.200	0.08704	F1	mg/Kg		43	70 - 130
o-Xylene	<0.00200	U F2 F1	0.100	0.05151	F1	mg/Kg		51	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-2588-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30263**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F2 F1	0.0990	0.01645	F2 F1	mg/Kg		17	70 - 130	43	35
Toluene	<0.00200	U F1	0.0990	0.02796	F1	mg/Kg		27	70 - 130	25	35
Ethylbenzene	<0.00200	U F2 F1	0.0990	0.02785	F2 F1	mg/Kg		27	70 - 130	40	35
m-Xylene & p-Xylene	<0.00399	U F2 F1	0.198	0.05748	F2 F1	mg/Kg		28	70 - 130	41	35
o-Xylene	<0.00200	U F2 F1	0.0990	0.03580	F2 F1	mg/Kg		36	70 - 130	36	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30478/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30484 — **Prep Batch: 30478**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/23/22 18:30	07/24/22 14:29	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/23/22 18:30	07/24/22 14:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/23/22 18:30*	*07/24/22 14:29*	*1*

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

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*

Lab Sample ID: LCS 880-30622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	957.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.5		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-30622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 880-17280-A-18-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

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

Lab Sample ID: 880-17280-A-18-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 880-17194-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	948		250	1174		mg/Kg		91	90 - 110		

Lab Sample ID: 880-17194-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	948		250	1184		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

GC VOA

Prep Batch: 30263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	5035	
MB 880-30263/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30478/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	8021B	30263
MB 880-30263/5-A	Method Blank	Total/NA	Solid	8021B	30263
MB 880-30478/5-A	Method Blank	Total/NA	Solid	8021B	30478
LCS 880-30263/1-A	Lab Control Sample	Total/NA	Solid	8021B	30263
LCSD 880-30263/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30263
890-2588-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	30263
890-2588-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30263

Analysis Batch: 30554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

Analysis Batch: 30752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2593-1	SS08	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30245
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Client Sample ID: SS08

Date Collected: 07/19/22 13:40
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2593-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30263	07/21/22 13:27	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30484	07/25/22 02:29	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30554	07/25/22 10:43	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30752	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 13:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 00:42	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2593-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2593-1	SS08	Solid	07/19/22 13:40	07/19/22 15:58	0.5

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR-8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS08	S	7/19/2022	1340	0.5'	Grab/	1		X	X	X

890-2593 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Amanda Stayt	7/19/22 1558			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2593-1
SDG Number: 03E1558056

Login Number: 2593
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2593-1
SDG Number: 03E1558056

Login Number: 2593
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2596-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 9:33:21 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2596-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Job ID: 890-2596-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2596-1

Receipt
The sample was received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-30562 and analytical batch 880-30657 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
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Client Sample ID: FS01

Date Collected: 07/19/22 12:05
Date Received: 07/19/22 15:58
Sample Depth: 1

Lab Sample ID: 890-2596-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/26/22 09:25	07/26/22 13:45	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/26/22 09:25	07/26/22 13:45	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/26/22 09:25	07/26/22 13:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/26/22 09:25	07/26/22 13:45	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/26/22 09:25	07/26/22 13:45	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/26/22 09:25	07/26/22 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/26/22 09:25*	*07/26/22 13:45*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*07/26/22 09:25*	*07/26/22 13:45*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/26/22 15:53	1

Method: 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			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 14:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 14:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:06*	*1*
o-Terphenyl	*98*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:06*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**284**		4.97		mg/Kg			07/25/22 00:57	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-17132-A-4-F MS	Matrix Spike	103	95
880-17132-A-4-G MSD	Matrix Spike Duplicate	110	96
890-2596-1	FS01	106	87
890-2603-A-1-D MS	Matrix Spike	103	85
890-2603-A-1-E MSD	Matrix Spike Duplicate	107	92
LCS 880-30562/1-A	Lab Control Sample	106	94
LCS 880-30664/1-A	Lab Control Sample	105	95
LCSD 880-30562/2-A	Lab Control Sample Dup	104	94
LCSD 880-30664/2-A	Lab Control Sample Dup	108	98
MB 880-30562/5-A	Method Blank	90	84
MB 880-30664/5-A	Method Blank	100	87

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17280-A-18-D MS	Matrix Spike	88	94
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92
890-2596-1	FS01	85	98
LCS 880-30622/2-A	Lab Control Sample	102	114
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104
MB 880-30622/1-A	Method Blank	98	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30562/5-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30562

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/22 10:57	07/26/22 22:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/22 10:57	07/26/22 22:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/22 10:57	07/26/22 22:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/22 10:57	07/26/22 22:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*07/25/22 10:57*	*07/26/22 22:37*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*07/25/22 10:57*	*07/26/22 22:37*	*1*

Lab Sample ID: LCS 880-30562/1-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09490		mg/Kg		95	70 - 130		
Toluene			0.100	0.09745		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.1000		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2002		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.1107		mg/Kg		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 880-30562/2-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1003		mg/Kg		100	70 - 130	6	35
Toluene			0.100	0.1020		mg/Kg		102	70 - 130	5	35
Ethylbenzene			0.100	0.1039		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2077		mg/Kg		104	70 - 130	4	35
o-Xylene			0.100	0.1145		mg/Kg		114	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2603-A-1-D MS
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30562

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 F2	0.101	0.03049	F1	mg/Kg		30	70 - 130		
Toluene	<0.00201	U F1 F2	0.101	0.03834	F1	mg/Kg		37	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

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

Lab Sample ID: 890-2603-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30657 — **Prep Batch: 30562**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.101	0.01617	F1	mg/Kg		16	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.202	0.08284	F1	mg/Kg		40	70 - 130
o-Xylene	<0.00201	U F1 F2	0.101	0.04972	F1	mg/Kg		49	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-2603-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30657 — **Prep Batch: 30562**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.100	0.07677	F2	mg/Kg		77	70 - 130	86	35
Toluene	<0.00201	U F1 F2	0.100	0.08242	F2	mg/Kg		81	70 - 130	73	35
Ethylbenzene	<0.00201	U F1 F2	0.100	0.08472	F2	mg/Kg		85	70 - 130	136	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.1719	F2	mg/Kg		85	70 - 130	70	35
o-Xylene	<0.00201	U F1 F2	0.100	0.09434	F2	mg/Kg		94	70 - 130	62	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-30664/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30657 — **Prep Batch: 30664**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/26/22 09:25	07/26/22 12:01	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/26/22 09:25	07/26/22 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*07/26/22 09:25*	*07/26/22 12:01*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*07/26/22 09:25*	*07/26/22 12:01*	*1*

Lab Sample ID: LCS 880-30664/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30657 — **Prep Batch: 30664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09358		mg/Kg		94	70 - 130
Toluene	0.100	0.09382		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09803		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	0.200	0.1983		mg/Kg		99	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

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

Lab Sample ID: LCS 880-30664/1-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30664

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1073		mg/Kg		107	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-30664/2-A
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30664

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09765		mg/Kg		98	70 - 130	4	35
Toluene			0.100	0.09676		mg/Kg		97	70 - 130	3	35
Ethylbenzene			0.100	0.1016		mg/Kg		102	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2052		mg/Kg		103	70 - 130	3	35
o-Xylene			0.100	0.1117		mg/Kg		112	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-17132-A-4-F MS
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30664

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.08215		mg/Kg		82	70 - 130		
Toluene	<0.00201	U	0.100	0.07761		mg/Kg		77	70 - 130		
Ethylbenzene	<0.00201	U	0.100	0.07428		mg/Kg		74	70 - 130		
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1476		mg/Kg		74	70 - 130		
o-Xylene	<0.00201	U	0.100	0.08083		mg/Kg		81	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-17132-A-4-G MSD
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30664

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.08953		mg/Kg		90	70 - 130	9	35
Toluene	<0.00201	U	0.0998	0.08606		mg/Kg		85	70 - 130	10	35
Ethylbenzene	<0.00201	U	0.0998	0.08275		mg/Kg		83	70 - 130	11	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1653		mg/Kg		83	70 - 130	11	35
o-Xylene	<0.00201	U	0.0998	0.09102		mg/Kg		91	70 - 130	12	35

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

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

Lab Sample ID: 880-17132-A-4-G MSD
Matrix: Solid
Analysis Batch: 30657

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30664

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

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

Lab Sample ID: MB 880-30622/1-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30622

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	07/25/22 16:23	07/26/22 09:44	1
o-Terphenyl	110		70 - 130	07/25/22 16:23	07/26/22 09:44	1

Lab Sample ID: LCS 880-30622/2-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30622

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	957.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.5		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-30622/3-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30622

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	104		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

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

Lab Sample ID: 880-17280-A-18-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: 880-17280-A-18-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	264.1		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-17194-A-1-B MS
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	948		250	1174		mg/Kg		91	90 - 110

Lab Sample ID: 880-17194-A-1-C MSD
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	948		250	1184		mg/Kg		94	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

GC VOA

Prep Batch: 30562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30562/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30562/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30562/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2603-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2603-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	8021B	30664
MB 880-30562/5-A	Method Blank	Total/NA	Solid	8021B	30562
MB 880-30664/5-A	Method Blank	Total/NA	Solid	8021B	30664
LCS 880-30562/1-A	Lab Control Sample	Total/NA	Solid	8021B	30562
LCS 880-30664/1-A	Lab Control Sample	Total/NA	Solid	8021B	30664
LCSD 880-30562/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30562
LCSD 880-30664/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30664
880-17132-A-4-F MS	Matrix Spike	Total/NA	Solid	8021B	30664
880-17132-A-4-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30664
890-2603-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	30562
890-2603-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30562

Prep Batch: 30664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	5035	
MB 880-30664/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30664/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30664/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17132-A-4-F MS	Matrix Spike	Total/NA	Solid	5035	
880-17132-A-4-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

GC Semi VOA (Continued)

Analysis Batch: 30645 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

Analysis Batch: 30754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2596-1	FS01	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
880-17194-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	30245
880-17194-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Client Sample ID: FS01

Date Collected: 07/19/22 12:05
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2596-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30664	07/26/22 09:25	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30657	07/26/22 13:45	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30717	07/26/22 15:53	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30754	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 14:06	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 00:57	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2596-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2596-1	FS01	Solid	07/19/22 12:05	07/19/22 15:58	1

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#4-00
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021	Parameters
FS01	S	7/19/2022	1205	1'	COMP	1		X	X	X	

ANALYSIS REQUEST

890-2596 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stiff	7/19/22 1538	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2596-1
SDG Number: 03E1558056

Login Number: 2596
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2596-1
SDG Number: 03E1558056

Login Number: 2596
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2598-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 8:18:45 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2598-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Job ID: 890-2598-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2598-1

Receipt
The samples were received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-30296 and analytical batch 880-30501 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.

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Client Sample ID: PH01

Date Collected: 07/19/22 09:15
Date Received: 07/19/22 15:58
Sample Depth: 1

Lab Sample ID: 890-2598-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 08:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 08:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 08:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/21/22 15:56	07/26/22 08:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 08:44	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/21/22 15:56	07/26/22 08:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*07/21/22 15:56*	*07/26/22 08:44*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*07/21/22 15:56*	*07/26/22 08:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/26/22 11:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 14:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 14:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:27*	*1*
o-Terphenyl	*122*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**27.2**		5.00		mg/Kg			07/25/22 01:05	1

Client Sample ID: PH01A

Date Collected: 07/19/22 09:20
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2598-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/21/22 15:56	07/26/22 09:05	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/21/22 15:56	07/26/22 09:05	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/21/22 15:56	07/26/22 09:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/21/22 15:56	07/26/22 09:05	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/21/22 15:56	07/26/22 09:05	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/21/22 15:56	07/26/22 09:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*07/21/22 15:56*	*07/26/22 09:05*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Client Sample ID: PH01A

Date Collected: 07/19/22 09:20
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2598-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*07/21/22 15:56*	*07/26/22 09:05*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/26/22 11:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**83.6**		50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 14:49	1
Diesel Range Organics (Over C10-C28)	**83.6**		50.0		mg/Kg		07/25/22 16:23	07/26/22 14:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:49*	*1*
o-Terphenyl	*115*		*70 - 130*	*07/25/22 16:23*	*07/26/22 14:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**148**		4.98		mg/Kg			07/25/22 01:13	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-17068-A-41-F MS	Matrix Spike	104	96
880-17068-A-41-G MSD	Matrix Spike Duplicate	102	94
890-2598-1	PH01	89	100
890-2598-2	PH01A	98	105
LCS 880-30296/1-A	Lab Control Sample	98	100
LCSD 880-30296/2-A	Lab Control Sample Dup	99	128
MB 880-30296/5-A	Method Blank	94	98
MB 880-30518/5-A	Method Blank	96	101

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17280-A-18-D MS	Matrix Spike	88	94
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92
890-2598-1	PH01	114	122
890-2598-2	PH01A	103	115
LCS 880-30622/2-A	Lab Control Sample	102	114
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104
MB 880-30622/1-A	Method Blank	98	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30296/5-A
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30296

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 00:59	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 00:59	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 00:59	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/21/22 15:56	07/26/22 00:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/21/22 15:56	07/26/22 00:59	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/21/22 15:56	07/26/22 00:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/21/22 15:56*	*07/26/22 00:59*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*07/21/22 15:56*	*07/26/22 00:59*	*1*

Lab Sample ID: LCS 880-30296/1-A
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30296

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08741		mg/Kg		87	70 - 130		
Toluene			0.100	0.09930		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.08723		mg/Kg		87	70 - 130		
m-Xylene & p-Xylene			0.200	0.1773		mg/Kg		89	70 - 130		
o-Xylene			0.100	0.1036		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-30296/2-A
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30296

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08421		mg/Kg		84	70 - 130	4	35
Toluene			0.100	0.08424		mg/Kg		84	70 - 130	16	35
Ethylbenzene			0.100	0.07183		mg/Kg		72	70 - 130	19	35
m-Xylene & p-Xylene			0.200	0.1416		mg/Kg		71	70 - 130	22	35
o-Xylene			0.100	0.09129		mg/Kg		91	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*128*		*70 - 130*

Lab Sample ID: 880-17068-A-41-F MS
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30296

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.0998	0.05472	F1	mg/Kg		55	70 - 130		
Toluene	<0.00200	U F1	0.0998	0.06737	F1	mg/Kg		68	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

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

Lab Sample ID: 880-17068-A-41-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30501 — **Prep Batch: 30296**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.0998	0.06057	F1	mg/Kg		60	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1246	F1	mg/Kg		62	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.07585		mg/Kg		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-17068-A-41-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30501 — **Prep Batch: 30296**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.100	0.03749	F1 F2	mg/Kg		37	70 - 130	37	35
Toluene	<0.00200	U F1	0.100	0.04858	F1	mg/Kg		48	70 - 130	32	35
Ethylbenzene	<0.00200	U F1	0.100	0.04345	F1	mg/Kg		43	70 - 130	33	35
m-Xylene & p-Xylene	<0.00399	U F1	0.201	0.08941	F1	mg/Kg		45	70 - 130	33	35
o-Xylene	<0.00200	U F1	0.100	0.05549	F1	mg/Kg		55	70 - 130	31	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-30518/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30501 — **Prep Batch: 30518**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/25/22 09:31	07/25/22 11:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/25/22 09:31	07/25/22 11:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/25/22 09:31	07/25/22 11:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/25/22 09:31*	*07/25/22 11:27*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/25/22 09:31*	*07/25/22 11:27*	*1*

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

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*

Lab Sample ID: LCS 880-30622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	957.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.5		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-30622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 880-17280-A-18-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

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

Lab Sample ID: 880-17280-A-18-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-2598-2 MS — **Client Sample ID: PH01A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	148		249	410.1		mg/Kg		105	90 - 110		

Lab Sample ID: 890-2598-2 MSD — **Client Sample ID: PH01A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	148		249	410.1		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

GC VOA

Prep Batch: 30296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	5035	
890-2598-2	PH01A	Total/NA	Solid	5035	
MB 880-30296/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30296/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30296/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17068-A-41-F MS	Matrix Spike	Total/NA	Solid	5035	
880-17068-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	8021B	30296
890-2598-2	PH01A	Total/NA	Solid	8021B	30296
MB 880-30296/5-A	Method Blank	Total/NA	Solid	8021B	30296
MB 880-30518/5-A	Method Blank	Total/NA	Solid	8021B	30518
LCS 880-30296/1-A	Lab Control Sample	Total/NA	Solid	8021B	30296
LCSD 880-30296/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30296
880-17068-A-41-F MS	Matrix Spike	Total/NA	Solid	8021B	30296
880-17068-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30296

Prep Batch: 30518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30518/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	Total BTEX	
890-2598-2	PH01A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	8015NM Prep	
890-2598-2	PH01A	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	8015B NM	30622
890-2598-2	PH01A	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

GC Semi VOA

Analysis Batch: 30755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Total/NA	Solid	8015 NM	
890-2598-2	PH01A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Soluble	Solid	DI Leach	
890-2598-2	PH01A	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2598-2 MS	PH01A	Soluble	Solid	DI Leach	
890-2598-2 MSD	PH01A	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2598-1	PH01	Soluble	Solid	300.0	30245
890-2598-2	PH01A	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
890-2598-2 MS	PH01A	Soluble	Solid	300.0	30245
890-2598-2 MSD	PH01A	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Client Sample ID: PH01

Date Collected: 07/19/22 09:15
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2598-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30296	07/21/22 15:56	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30501	07/26/22 08:44	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30676	07/26/22 11:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30755	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 14:27	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 01:05	CH	XEN MID

Client Sample ID: PH01A

Date Collected: 07/19/22 09:20
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2598-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	30296	07/21/22 15:56	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30501	07/26/22 09:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30676	07/26/22 11:03	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30755	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 14:49	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 01:13	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2598-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2598-1	PH01	Solid	07/19/22 09:15	07/19/22 15:58	1
890-2598-2	PH01A	Solid	07/19/22 09:20	07/19/22 15:58	2

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	7/19/2022	915	1'	Grab/	1		X	X	X
PH01A	S	7/19/2022	920	2'	Grab/	1		X	X	X

890-2598 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	7/19/22 1538	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2598-1
SDG Number: 03E1558056

Login Number: 2598
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2598-1
SDG Number: 03E1558056

Login Number: 2598
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2599-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 8:19:04 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2599-1
SDG: 03E1558056

Table of Contents

Eurofins Carlsbad
7/27/2022

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Job ID: 890-2599-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2599-1

Receipt
The samples were received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-30503 and analytical batch 880-30499 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-30518 and analytical batch 880-30501 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.

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Client Sample ID: PH02

Date Collected: 07/19/22 08:55
Date Received: 07/19/22 15:58
Sample Depth: 1

Lab Sample ID: 890-2599-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 15:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 15:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 15:14	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/25/22 08:40	07/25/22 15:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 15:14	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/25/22 08:40	07/25/22 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*07/25/22 08:40*	*07/25/22 15:14*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*07/25/22 08:40*	*07/25/22 15:14*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/25/22 15:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**55.4**		49.9		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 16:27	1
Diesel Range Organics (Over C10-C28)	**55.4**		49.9		mg/Kg		07/25/22 16:23	07/26/22 16:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*07/25/22 16:23*	*07/26/22 16:27*	*1*
o-Terphenyl	*107*		*70 - 130*	*07/25/22 16:23*	*07/26/22 16:27*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**173**		5.03		mg/Kg			07/25/22 01:37	1

Client Sample ID: PH02A

Date Collected: 07/19/22 09:00
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2599-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/25/22 09:31	07/25/22 12:58	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/25/22 09:31	07/25/22 12:58	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/25/22 09:31	07/25/22 12:58	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		07/25/22 09:31	07/25/22 12:58	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/25/22 09:31	07/25/22 12:58	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		07/25/22 09:31	07/25/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*07/25/22 09:31*	*07/25/22 12:58*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Client Sample ID: PH02A

Date Collected: 07/19/22 09:00
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2599-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*07/25/22 09:31*	*07/25/22 12:58*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			07/25/22 15:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 16:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 16:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*07/25/22 16:23*	*07/26/22 16:48*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 16:48*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**152**		5.05		mg/Kg			07/25/22 01:44	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-17291-A-1-D MS	Matrix Spike	96	99
880-17291-A-1-E MSD	Matrix Spike Duplicate	92	104
890-2599-1	PH02	95	82
890-2599-2	PH02A	101	95
890-2631-A-1-B MS	Matrix Spike	102	86
890-2631-A-1-C MSD	Matrix Spike Duplicate	118	89
LCS 880-30503/1-A	Lab Control Sample	107	97
LCS 880-30518/1-A	Lab Control Sample	97	102
LCSD 880-30503/2-A	Lab Control Sample Dup	112	95
LCSD 880-30518/2-A	Lab Control Sample Dup	101	96
MB 880-30503/5-A	Method Blank	99	86
MB 880-30518/5-A	Method Blank	96	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17280-A-18-D MS	Matrix Spike	88	94
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92
890-2599-1	PH02	94	107
890-2599-2	PH02A	99	110
LCS 880-30622/2-A	Lab Control Sample	102	114
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104
MB 880-30622/1-A	Method Blank	98	110

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30503/5-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30503

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/22 08:40	07/25/22 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/25/22 08:40*	*07/25/22 11:49*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/25/22 08:40*	*07/25/22 11:49*	*1*

Lab Sample ID: LCS 880-30503/1-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30503

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1004		mg/Kg		100	70 - 130		
Toluene			0.100	0.1002		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.1038		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2077		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1147		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-30503/2-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30503

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09092		mg/Kg		91	70 - 130	10	35
Toluene			0.100	0.09262		mg/Kg		93	70 - 130	8	35
Ethylbenzene			0.100	0.09946		mg/Kg		99	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2016		mg/Kg		101	70 - 130	3	35
o-Xylene			0.100	0.1100		mg/Kg		110	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2631-A-1-B MS
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.100	0.06688	F1	mg/Kg		67	70 - 130		
Toluene	<0.00201	U	0.100	0.08166		mg/Kg		81	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

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

Lab Sample ID: 890-2631-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30499 — **Prep Batch: 30503**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.08891		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1766		mg/Kg		88	70 - 130
o-Xylene	<0.00201	U	0.100	0.09585		mg/Kg		95	70 - 130

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

Lab Sample ID: 890-2631-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30499 — **Prep Batch: 30503**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0998	0.07027		mg/Kg		70	70 - 130	5	35
Toluene	<0.00201	U	0.0998	0.07904		mg/Kg		79	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0998	0.08860		mg/Kg		89	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1847		mg/Kg		93	70 - 130	5	35
o-Xylene	<0.00201	U	0.0998	0.1004		mg/Kg		101	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: MB 880-30518/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30501 — **Prep Batch: 30518**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/22 09:31	07/25/22 11:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/22 09:31	07/25/22 11:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/22 09:31	07/25/22 11:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/22 09:31	07/25/22 11:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/25/22 09:31*	*07/25/22 11:27*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*07/25/22 09:31*	*07/25/22 11:27*	*1*

Lab Sample ID: LCS 880-30518/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30501 — **Prep Batch: 30518**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene			0.100	0.09704		mg/Kg		97	70 - 130
Toluene			0.100	0.1029		mg/Kg		103	70 - 130
Ethylbenzene			0.100	0.08919		mg/Kg		89	70 - 130
m-Xylene & p-Xylene			0.200	0.1817		mg/Kg		91	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

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

Lab Sample ID: LCS 880-30518/1-A
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30518

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1051		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-30518/2-A
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30518

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09242		mg/Kg		92	70 - 130	5	35
Toluene			0.100	0.1076		mg/Kg		108	70 - 130	4	35
Ethylbenzene			0.100	0.09524		mg/Kg		95	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1950		mg/Kg		98	70 - 130	7	35
o-Xylene			0.100	0.1121		mg/Kg		112	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 880-17291-A-1-D MS
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30518

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.0998	0.06616	F1	mg/Kg		66	70 - 130		
Toluene	<0.00201	U F1 F2	0.0998	0.05990	F1	mg/Kg		60	70 - 130		
Ethylbenzene	<0.00201	U F1 F2	0.0998	0.04126	F1	mg/Kg		41	70 - 130		
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.08208	F1	mg/Kg		41	70 - 130		
o-Xylene	<0.00201	U F1 F2	0.0998	0.04570	F1	mg/Kg		46	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-17291-A-1-E MSD
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30518

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.100	0.05001	F1	mg/Kg		50	70 - 130	28	35
Toluene	<0.00201	U F1 F2	0.100	0.03624	F1 F2	mg/Kg		36	70 - 130	49	35
Ethylbenzene	<0.00201	U F1 F2	0.100	0.02194	F1 F2	mg/Kg		22	70 - 130	61	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.04266	F1 F2	mg/Kg		21	70 - 130	63	35
o-Xylene	<0.00201	U F1 F2	0.100	0.02244	F1 F2	mg/Kg		22	70 - 130	68	35

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

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

Lab Sample ID: 880-17291-A-1-E MSD
Matrix: Solid
Analysis Batch: 30501

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30518

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	104		70 - 130

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

Lab Sample ID: MB 880-30622/1-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30622

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	07/25/22 16:23	07/26/22 09:44	1
o-Terphenyl	110		70 - 130	07/25/22 16:23	07/26/22 09:44	1

Lab Sample ID: LCS 880-30622/2-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30622

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	957.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.5		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-30622/3-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30622

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	104		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

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

Lab Sample ID: 880-17280-A-18-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: 880-17280-A-18-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	264.1		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2598-A-2-B MS
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	148		249	410.1		mg/Kg		105	90 - 110

Lab Sample ID: 890-2598-A-2-C MSD
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	148		249	410.1		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

GC VOA

Analysis Batch: 30499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	8021B	30503
MB 880-30503/5-A	Method Blank	Total/NA	Solid	8021B	30503
LCS 880-30503/1-A	Lab Control Sample	Total/NA	Solid	8021B	30503
LCSD 880-30503/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30503
890-2631-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	30503
890-2631-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30503

Analysis Batch: 30501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-2	PH02A	Total/NA	Solid	8021B	30518
MB 880-30518/5-A	Method Blank	Total/NA	Solid	8021B	30518
LCS 880-30518/1-A	Lab Control Sample	Total/NA	Solid	8021B	30518
LCSD 880-30518/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30518
880-17291-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	30518
880-17291-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30518

Prep Batch: 30503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	5035	
MB 880-30503/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30503/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30503/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2631-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-2631-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-2	PH02A	Total/NA	Solid	5035	
MB 880-30518/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30518/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30518/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17291-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-17291-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	Total BTEX	
890-2599-2	PH02A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	8015NM Prep	
890-2599-2	PH02A	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

GC Semi VOA

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	8015B NM	30622
890-2599-2	PH02A	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

Analysis Batch: 30756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Total/NA	Solid	8015 NM	
890-2599-2	PH02A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Soluble	Solid	DI Leach	
890-2599-2	PH02A	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2599-1	PH02	Soluble	Solid	300.0	30245
890-2599-2	PH02A	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	30245
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Client Sample ID: PH02

Date Collected: 07/19/22 08:55
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2599-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30503	07/25/22 08:40	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30499	07/25/22 15:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30609	07/25/22 15:51	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30756	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 16:27	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 01:37	CH	XEN MID

Client Sample ID: PH02A

Date Collected: 07/19/22 09:00
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2599-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	30518	07/25/22 09:31	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30501	07/25/22 12:58	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30609	07/25/22 15:51	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30756	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 16:48	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 01:44	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2599-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2599-1	PH02	Solid	07/19/22 08:55	07/19/22 15:58	1
890-2599-2	PH02A	Solid	07/19/22 09:00	07/19/22 15:58	2

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	IR#8	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0	
Total Containers:		Corrected Temperature:	2.8	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH02	S	7/19/2022	855	1'	Grab/	1		X	X	X
PH02A	S	7/19/2022	900	2'	Grab/	1		X	X	X

890-2599 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stiff	7/19/22 1538			
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT	Temp Blank: Yes / No	Wet Ice: Yes / No	
Samples Received Intact:	Yes / No	Thermometer ID:	IR#8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH02	S	7/19/2022	855	1'	Grab/	1		X	X	X
PH02A	S	7/19/2022	900	2'	Grab/	1		X	X	X

890-2599 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

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: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	7/19/22 1538			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2599-1
SDG Number: 03E1558056

Login Number: 2599
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2599-1
SDG Number: 03E1558056

Login Number: 2599
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2600-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 8:19:22 AM

Jessica Kramer, Project Manager
(432)704-5440
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2600-1
SDG: 03E1558056

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Definitions/Glossary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
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Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

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Job ID: 890-2600-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2600-1

Receipt
The samples were received on 7/20/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-30361 and analytical batch 880-30473 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.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Client Sample ID: PH04

Date Collected: 07/19/22 09:45
Date Received: 07/20/22 15:58
Sample Depth: 1'

Lab Sample ID: 890-2600-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		07/22/22 10:18	07/24/22 06:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		07/22/22 10:18	07/24/22 06:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		07/22/22 10:18	07/24/22 06:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		07/22/22 10:18	07/24/22 06:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		07/22/22 10:18	07/24/22 06:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		07/22/22 10:18	07/24/22 06:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*07/22/22 10:18*	*07/24/22 06:31*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*07/22/22 10:18*	*07/24/22 06:31*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/25/22 11:06	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:53*	*1*
o-Terphenyl	*111*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:53*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.6**		5.04		mg/Kg			07/25/22 02:08	1

Client Sample ID: PH04A

Date Collected: 07/19/22 09:50
Date Received: 07/20/22 15:58
Sample Depth: 2'

Lab Sample ID: 890-2600-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 06:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 06:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 06:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/22/22 10:18	07/24/22 06:51	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 06:51	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/22/22 10:18	07/24/22 06:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*07/22/22 10:18*	*07/24/22 06:51*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Client Sample ID: PH04A

Date Collected: 07/19/22 09:50
Date Received: 07/20/22 15:58
Sample Depth: 2'

Lab Sample ID: 890-2600-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/22/22 10:18*	*07/24/22 06:51*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/25/22 11:06	1

Method: 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			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 18:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 18:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/25/22 16:23	07/26/22 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*07/25/22 16:23*	*07/26/22 18:14*	*1*
o-Terphenyl	*129*		*70 - 130*	*07/25/22 16:23*	*07/26/22 18:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.2**		5.05		mg/Kg			07/25/22 02:16	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-17260-A-15-B MS	Matrix Spike	114	94										
880-17260-A-15-C MSD	Matrix Spike Duplicate	129	84										
890-2600-1	PH04	106	82										
890-2600-2	PH04A	109	86										
LCS 880-30361/1-A	Lab Control Sample	128	98										
LCSD 880-30361/2-A	Lab Control Sample Dup	117	99										
MB 880-30361/5-A	Method Blank	104	85										
MB 880-30426/5-A	Method Blank	94	86										

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-17280-A-18-D MS	Matrix Spike	88	94										
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92										
890-2600-1	PH04	105	111										
890-2600-2	PH04A	112	129										
LCS 880-30622/2-A	Lab Control Sample	102	114										
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104										
MB 880-30622/1-A	Method Blank	98	110										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30361/5-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30361

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 01:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/22/22 10:18	07/24/22 01:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/22/22 10:18	07/24/22 01:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/22/22 10:18	07/24/22 01:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*07/22/22 10:18*	*07/24/22 01:23*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*07/22/22 10:18*	*07/24/22 01:23*	*1*

Lab Sample ID: LCS 880-30361/1-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30361

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09697		mg/Kg		97	70 - 130		
Toluene			0.100	0.1018		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.1105		mg/Kg		111	70 - 130		
m-Xylene & p-Xylene			0.200	0.2303		mg/Kg		115	70 - 130		
o-Xylene			0.100	0.1290		mg/Kg		129	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-30361/2-A
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30361

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07948		mg/Kg		79	70 - 130	20	35
Toluene			0.100	0.08370		mg/Kg		84	70 - 130	20	35
Ethylbenzene			0.100	0.09040		mg/Kg		90	70 - 130	20	35
m-Xylene & p-Xylene			0.200	0.1865		mg/Kg		93	70 - 130	21	35
o-Xylene			0.100	0.1072		mg/Kg		107	70 - 130	18	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 880-17260-A-15-B MS
Matrix: Solid
Analysis Batch: 30473

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F2 F1	0.0998	0.07498		mg/Kg		75	70 - 130		
Toluene	<0.00201	U F1	0.0998	0.07676		mg/Kg		75	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
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Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-17260-A-15-B MS | **Client Sample ID: Matrix Spike**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 30473 | **Prep Batch: 30361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1	0.0998	0.07639		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.1541		mg/Kg		76	70 - 130
o-Xylene	<0.00201	U F1	0.0998	0.08436		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-17260-A-15-C MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 30473 | **Prep Batch: 30361**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.100	0.04516	F2 F1	mg/Kg		45	70 - 130	50	35
Toluene	<0.00201	U F1	0.100	0.05845	F1	mg/Kg		57	70 - 130	27	35
Ethylbenzene	<0.00201	U F1	0.100	0.06139	F1	mg/Kg		61	70 - 130	22	35
m-Xylene & p-Xylene	<0.00402	U F1	0.201	0.1216	F1	mg/Kg		60	70 - 130	24	35
o-Xylene	<0.00201	U F1	0.100	0.06840	F1	mg/Kg		68	70 - 130	21	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: MB 880-30426/5-A | **Client Sample ID: Method Blank**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 30473 | **Prep Batch: 30426**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/22/22 15:06	07/23/22 14:49	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/22/22 15:06	07/23/22 14:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*07/22/22 15:06*	*07/23/22 14:49*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/22/22 15:06*	*07/23/22 14:49*	*1*

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

Lab Sample ID: MB 880-30622/1-A | **Client Sample ID: Method Blank**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 30645 | **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
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Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*

Lab Sample ID: LCS 880-30622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	957.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	926.5		mg/Kg		93	70 - 130		

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

Lab Sample ID: LCSD 880-30622/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: 880-17280-A-18-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

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

Lab Sample ID: 880-17280-A-18-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-2598-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	148		249	410.1		mg/Kg		105	90 - 110		

Lab Sample ID: 890-2598-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 30486

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	148		249	410.1		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

GC VOA

Prep Batch: 30361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	5035	
890-2600-2	PH04A	Total/NA	Solid	5035	
MB 880-30361/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30361/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30361/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-17260-A-15-B MS	Matrix Spike	Total/NA	Solid	5035	
880-17260-A-15-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 30426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-30426/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 30473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	8021B	30361
890-2600-2	PH04A	Total/NA	Solid	8021B	30361
MB 880-30361/5-A	Method Blank	Total/NA	Solid	8021B	30361
MB 880-30426/5-A	Method Blank	Total/NA	Solid	8021B	30426
LCS 880-30361/1-A	Lab Control Sample	Total/NA	Solid	8021B	30361
LCSD 880-30361/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30361
880-17260-A-15-B MS	Matrix Spike	Total/NA	Solid	8021B	30361
880-17260-A-15-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30361

Analysis Batch: 30567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	Total BTEX	
890-2600-2	PH04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	8015NM Prep	
890-2600-2	PH04A	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	8015B NM	30622
890-2600-2	PH04A	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

GC Semi VOA

Analysis Batch: 30758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Total/NA	Solid	8015 NM	
890-2600-2	PH04A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Soluble	Solid	DI Leach	
890-2600-2	PH04A	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2600-1	PH04	Soluble	Solid	300.0	30245
890-2600-2	PH04A	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	30245
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Client Sample ID: PH04

Date Collected: 07/19/22 09:45
Date Received: 07/20/22 15:58

Lab Sample ID: 890-2600-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 06:31	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30567	07/25/22 11:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30758	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 17:53	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 02:08	CH	XEN MID

Client Sample ID: PH04A

Date Collected: 07/19/22 09:50
Date Received: 07/20/22 15:58

Lab Sample ID: 890-2600-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	30361	07/22/22 10:18	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30473	07/24/22 06:51	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30567	07/25/22 11:06	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30758	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 18:14	AJ	XEN MID
Soluble	Leach	DI Leach			4.95 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 02:16	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2600-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2600-1	PH04	Solid	07/19/22 09:45	07/20/22 15:58	1'
890-2600-2	PH04A	Solid	07/19/22 09:50	07/20/22 15:58	2'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.0
Total Containers:		Corrected Temperature:	2.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH04	S	7/19/2022	945	1'	Grab/	1		X	X	X
PH04A	S	7/19/2022	950	2'	Grab/	1		X	X	X

890-2600 Chain of Custody

Preservative Codes

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

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010:** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7/19/22 1538	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2600-1
SDG Number: 03E1558056

Login Number: 2600
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2600-1
SDG Number: 03E1558056

Login Number: 2600
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2601-1
Laboratory Sample Delivery Group: 03E1558056
Client Project/Site: BEU 5E HAN SOLO 105H

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

Attn: Ben Belill

JKramer

Authorized for release by:
7/27/2022 8:19:39 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.

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Laboratory Job ID: 890-2601-1
SDG: 03E1558056

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2601-1
Project/Site: BEU 5E HAN SOLO 105H SDG: 03E1558056

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Job ID: 890-2601-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2601-1

Receipt
The samples were received on 7/19/2022 3:58 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 2.8°C

GC VOA
Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-30503 and analytical batch 880-30499 were outside control limits. Non-homogeneity is 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 880-30658 and analytical batch 880-30649 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.

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Client Sample ID: PH03

Date Collected: 07/19/22 09:25
Date Received: 07/19/22 15:58
Sample Depth: 1

Lab Sample ID: 890-2601-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		07/25/22 08:40	07/25/22 14:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		07/25/22 08:40	07/25/22 14:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		07/25/22 08:40	07/25/22 14:33	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		07/25/22 08:40	07/25/22 14:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		07/25/22 08:40	07/25/22 14:33	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		07/25/22 08:40	07/25/22 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*07/25/22 08:40*	*07/25/22 14:33*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/25/22 08:40*	*07/25/22 14:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			07/25/22 15:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/25/22 16:23	07/26/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:10*	*1*
1-Chlorooctane	*94*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:32*	*1*
o-Terphenyl	*97*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:10*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 17:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**20.8**		4.99		mg/Kg			07/25/22 02:24	1

Client Sample ID: PH03A

Date Collected: 07/19/22 09:30
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2601-2

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		07/25/22 08:40	07/25/22 14:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		07/25/22 08:40	07/25/22 14:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		07/25/22 08:40	07/25/22 14:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		07/25/22 08:40	07/25/22 14:54	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		07/25/22 08:40	07/25/22 14:54	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		07/25/22 08:40	07/25/22 14:54	1

Client Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Client Sample ID: PH03A

Date Collected: 07/19/22 09:30
Date Received: 07/19/22 15:58
Sample Depth: 2

Lab Sample ID: 890-2601-2

Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*07/25/22 08:40*	*07/25/22 14:54*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*07/25/22 08:40*	*07/25/22 14:54*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			07/25/22 15:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/27/22 08:23	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/26/22 08:36	07/26/22 19:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/26/22 08:36	07/26/22 19:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/26/22 08:36	07/26/22 19:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*81*		*70 - 130*	*07/26/22 08:36*	*07/26/22 19:21*	*1*
o-Terphenyl	*92*		*70 - 130*	*07/26/22 08:36*	*07/26/22 19:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.3**		4.96		mg/Kg			07/25/22 02:32	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2601-1	PH03	96	86
890-2601-2	PH03A	100	76
890-2631-A-1-B MS	Matrix Spike	102	86
890-2631-A-1-C MSD	Matrix Spike Duplicate	118	89
LCS 880-30503/1-A	Lab Control Sample	107	97
LCSD 880-30503/2-A	Lab Control Sample Dup	112	95
MB 880-30503/5-A	Method Blank	99	86

Surrogate Legend

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

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

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17280-A-18-D MS	Matrix Spike	88	94
880-17280-A-18-E MSD	Matrix Spike Duplicate	85	92
890-2601-1	PH03	94	97
890-2601-1	PH03	94	110
890-2601-2	PH03A	81	92
890-2606-A-1-D MS	Matrix Spike	70	70
890-2606-A-1-E MSD	Matrix Spike Duplicate	71	73
LCS 880-30622/2-A	Lab Control Sample	102	114
LCS 880-30658/2-A	Lab Control Sample	106	111
LCSD 880-30622/3-A	Lab Control Sample Dup	91	104
LCSD 880-30658/3-A	Lab Control Sample Dup	94	101
MB 880-30622/1-A	Method Blank	98	110
MB 880-30658/1-A	Method Blank	74	83

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-30503/5-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30503

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/25/22 08:40	07/25/22 11:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/25/22 08:40	07/25/22 11:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*07/25/22 08:40*	*07/25/22 11:49*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*07/25/22 08:40*	*07/25/22 11:49*	*1*

Lab Sample ID: LCS 880-30503/1-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30503

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1004		mg/Kg		100	70 - 130		
Toluene			0.100	0.1002		mg/Kg		100	70 - 130		
Ethylbenzene			0.100	0.1038		mg/Kg		104	70 - 130		
m-Xylene & p-Xylene			0.200	0.2077		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1147		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-30503/2-A
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30503

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09092		mg/Kg		91	70 - 130	10	35
Toluene			0.100	0.09262		mg/Kg		93	70 - 130	8	35
Ethylbenzene			0.100	0.09946		mg/Kg		99	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2016		mg/Kg		101	70 - 130	3	35
o-Xylene			0.100	0.1100		mg/Kg		110	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-2631-A-1-B MS
Matrix: Solid
Analysis Batch: 30499

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.100	0.06688	F1	mg/Kg		67	70 - 130		
Toluene	<0.00201	U	0.100	0.08166		mg/Kg		81	70 - 130		

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QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

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

Lab Sample ID: 890-2631-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30499 — **Prep Batch: 30503**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.08891		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.1766		mg/Kg		88	70 - 130
o-Xylene	<0.00201	U	0.100	0.09585		mg/Kg		95	70 - 130

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

Lab Sample ID: 890-2631-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30499 — **Prep Batch: 30503**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0998	0.07027		mg/Kg		70	70 - 130	5	35
Toluene	<0.00201	U	0.0998	0.07904		mg/Kg		79	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0998	0.08860		mg/Kg		89	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1847		mg/Kg		93	70 - 130	5	35
o-Xylene	<0.00201	U	0.0998	0.1004		mg/Kg		101	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

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

Lab Sample ID: MB 880-30622/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		07/25/22 16:23	07/26/22 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*
o-Terphenyl	*110*		*70 - 130*	*07/25/22 16:23*	*07/26/22 09:44*	*1*

Lab Sample ID: LCS 880-30622/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 30645 — **Prep Batch: 30622**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	957.4		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	1000	926.5		mg/Kg		93	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

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

Lab Sample ID: LCS 880-30622/2-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30622

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

Lab Sample ID: LCSD 880-30622/3-A
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30622

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	988.4		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	863.8		mg/Kg		86	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 880-17280-A-18-D MS
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30622

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1163		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	789.8		mg/Kg		79	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 880-17280-A-18-E MSD
Matrix: Solid
Analysis Batch: 30645

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30622

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1054		mg/Kg		106	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.5		mg/Kg		77	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	92		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

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

Lab Sample ID: MB 880-30658/1-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 30658

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/26/22 08:35	07/26/22 10:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/26/22 08:35	07/26/22 10:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/26/22 08:35	07/26/22 10:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*07/26/22 08:35*	*07/26/22 10:49*	*1*
o-Terphenyl	*83*		*70 - 130*	*07/26/22 08:35*	*07/26/22 10:49*	*1*

Lab Sample ID: LCS 880-30658/2-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 30658

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1058		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1146		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Lab Sample ID: LCSD 880-30658/3-A
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 30658

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1120		mg/Kg		112	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	1009		mg/Kg		101	70 - 130	13	20

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

Lab Sample ID: 890-2606-A-1-D MS
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30658

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1102		mg/Kg		107	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1	1000	660.1	F1	mg/Kg		66	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

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

Lab Sample ID: 890-2606-A-1-D MS
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 30658

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

Lab Sample ID: 890-2606-A-1-E MSD
Matrix: Solid
Analysis Batch: 30649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 30658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1138		mg/Kg		111	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1	999	702.8		mg/Kg		70	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	71		70 - 130
o-Terphenyl	73		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-30245/1-A
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/24/22 23:00	1

Lab Sample ID: LCS 880-30245/2-A
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	264.1		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-30245/3-A
Matrix: Solid
Analysis Batch: 30486

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.5		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-2598-A-2-B MS
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	148		249	410.1		mg/Kg		105	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2598-A-2-C MSD
Matrix: Solid
Analysis Batch: 30486

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	148		249	410.1		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

GC VOA

Analysis Batch: 30499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	8021B	30503
890-2601-2	PH03A	Total/NA	Solid	8021B	30503
MB 880-30503/5-A	Method Blank	Total/NA	Solid	8021B	30503
LCS 880-30503/1-A	Lab Control Sample	Total/NA	Solid	8021B	30503
LCSD 880-30503/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	30503
890-2631-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	30503
890-2631-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	30503

Prep Batch: 30503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	5035	
890-2601-2	PH03A	Total/NA	Solid	5035	
MB 880-30503/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-30503/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-30503/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2631-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-2631-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	Total BTEX	
890-2601-2	PH03A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 30622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	8015NM Prep	
890-2601-1	PH03	Total/NA	Solid	8015NM Prep	
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	8015B NM	30622
890-2601-1	PH03	Total/NA	Solid	8015B NM	30622
MB 880-30622/1-A	Method Blank	Total/NA	Solid	8015B NM	30622
LCS 880-30622/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30622
LCSD 880-30622/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30622
880-17280-A-18-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30622
880-17280-A-18-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30622

Analysis Batch: 30649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-2	PH03A	Total/NA	Solid	8015B NM	30658
MB 880-30658/1-A	Method Blank	Total/NA	Solid	8015B NM	30658
LCS 880-30658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	30658
LCSD 880-30658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	30658

QC Association Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

GC Semi VOA (Continued)

Analysis Batch: 30649 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2606-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	30658
890-2606-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	30658

Prep Batch: 30658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-2	PH03A	Total/NA	Solid	8015NM Prep	
MB 880-30658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-30658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-30658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2606-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2606-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 30757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Total/NA	Solid	8015 NM	
890-2601-2	PH03A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 30245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Soluble	Solid	DI Leach	
890-2601-2	PH03A	Soluble	Solid	DI Leach	
MB 880-30245/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 30486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2601-1	PH03	Soluble	Solid	300.0	30245
890-2601-2	PH03A	Soluble	Solid	300.0	30245
MB 880-30245/1-A	Method Blank	Soluble	Solid	300.0	30245
LCS 880-30245/2-A	Lab Control Sample	Soluble	Solid	300.0	30245
LCSD 880-30245/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	30245
890-2598-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	30245
890-2598-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	30245

Lab Chronicle

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Client Sample ID: PH03

Date Collected: 07/19/22 09:25
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2601-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	30503	07/25/22 08:40	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30499	07/25/22 14:33	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30616	07/25/22 15:54	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30757	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 17:10	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30622	07/25/22 16:23	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30645	07/26/22 17:32	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 02:24	CH	XEN MID

Client Sample ID: PH03A

Date Collected: 07/19/22 09:30
Date Received: 07/19/22 15:58

Lab Sample ID: 890-2601-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	30503	07/25/22 08:40	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30499	07/25/22 14:54	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30616	07/25/22 15:54	SM	XEN MID
Total/NA	Analysis	8015 NM		1			30757	07/27/22 08:23	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	30658	07/26/22 08:36	DM	XEN MID
Total/NA	Analysis	8015B NM		1			30649	07/26/22 19:21	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	30245	07/22/22 12:23	SMC	XEN MID
Soluble	Analysis	300.0		1			30486	07/25/22 02:32	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

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

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

Sample Summary

Client: Ensolum
Project/Site: BEU 5E HAN SOLO 105H

Job ID: 890-2601-1
SDG: 03E1558056

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2601-1	PH03	Solid	07/19/22 09:25	07/19/22 15:58	1
890-2601-2	PH03A	Solid	07/19/22 09:30	07/19/22 15:58	2

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy, Inc.
Address:	3122 National parks Hwy	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	9898540852	Email:	bbelill@ensolum.com

Work Order Comments

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

Project Name:	BEU 5E HAN SOLO 105H	Turn Around	☑ Routine ☐ Rush
Project Number:	03E1558056	Due Date:	
Project Location:	EDDY COUNTY, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	T	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.0	
Total Containers:		Corrected Temperature:	2.8	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH03	S	7/19/2022	925	1'	Grab/	1		X	X	X
PH03A	S	7/19/2022	930	2'	Grab/	1		X	X	X

ANALYSIS REQUEST

890-2601 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1568871001

Incident ID:NAPP2209731445

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuy	7/19/22 1538	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2601-1
SDG Number: 03E1558056

Login Number: 2601
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2601-1
SDG Number: 03E1558056

Login Number: 2601
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 07/21/22 10:51 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From:	Hamlet, Robert, EMNRD
To:	Collins, Melanie
Cc:	Pennington, Shelby G; DelawareSpills /SM; Ben Belill; Aimee Cole; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject:	(Extension Approval) BEU 5E Han Solo 105H (Incident Number NAPP2209731445)
Date:	Wednesday, June 22, 2022 11:11:53 AM
Attachments:	image003.png

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2209731445**

Melanie,

Your request for an extension to **August 21st, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Wednesday, June 22, 2022 8:13 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>; bbelill@ensolum.com; acole@ensolum.com
Subject: [EXTERNAL] BEU 5E Han Solo 105H (Incident Number NAPP2209731445)

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

All,

BEU 5E Han Solo 105H (Incident Number NAPP2209731445)

XTO is requesting an extension for the current deadline of June 22, 2022 for submitting a closure request required in 19.15.29.12.B.(1) NMAC at the BEU 5E Han Solo 105H (Incident Number NAPP2209731445). The release occurred on March 24, 2022, and initial assessment activities have

been completed. Based on the laboratory analytical results, XTO is requesting a 60-day extension until August 21, 2022, to complete delineation and excavation of the impacted soil and submit a closure request.

Thank you,

Melanie Collins

Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

From: Tacoma Morrissey
To: Ben Belill; Kalei Jennings
Subject: FW: XTO - Sampling Notification (week of 7/18/22 - 7/22/22)
Date: Monday, July 18, 2022 8:59:15 AM
Attachments: image001.png
image002.png
image003.png
image004.png

See below.

Tacoma Morrissey
Senior Geologist
337-257-8307
Ensolum, LLC

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Friday, July 15, 2022 2:22 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Tacoma Morrissey <tmorrissey@ensolum.com>; DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO - Sampling Notification (week of 7/18/22 - 7/22/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of July 18, 2022.

Tuesday
- BEU 5E Han Solo 114H/ nAPP2209041753
- BEU 5E Han Solo 105H/ nAPP2209731445

Wednesday
- BEU 5E Han Solo 114H/ nAPP2209041753
- BEU 5E Han Solo 105H/ nAPP2209731445

Thursday
- PLU 18 TWR 155H/ nAPP2214735696
- JRU DI 1 Liner Delineation/ nAPP2216152113

Friday
- PLU 18 TWR 155H/ nAPP2214735696

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

ENSOLUM

APPENDIX F

Safety Data Sheet for Friction Reducer

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque **Physical state** Liquid **Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Skin and body protection

No special protective equipment required.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards	2	Flammability	2	Instability	0	Physical and chemical properties -
HMIS	Health hazards	2	Flammability	2	Physical hazards	0	Personal protection X

Issuing Date	01-Aug-2019
Revision Date	01-Aug-2019
Revision Note	No information available.

Disclaimer

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End of Safety Data Sheet

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

CONDITIONS

Action 135888

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 135888
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2209731445 BEU 5E HAN SOLO 105H, thank you. This closure is approved.	11/23/2022