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	NAPP2319954265
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Garrett Green	Contact Telephone 575-200-0729
Contact email garrett.green@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.45072 Longitude -103.92541
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit Booster	Site Type pipeline
Date Release Discovered 07/05/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
E	30	21S	30E	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) 15.08	Volume Recovered (bbls) 0
	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)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Third-party water transfer operator reported a leak on temporary water transfer pump. A failed gasket on pump suction vacuum chamber resulted in fluids released to permeable ground. A third-party contractor has veen retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2319954265
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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: Garrett Green Title: SSHE Coordinator

Signature:  Date: 7/18/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 7/18/2023

Incident ID	NAPP2319954265
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?	>110 (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.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2319954265
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: SSHE Coordinator

Signature: Date: 9/28/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 10/4/2023

Incident ID	NAPP2319954265
District RP	
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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: 9/28/2023

email: garrett.green@exxonmobil.com Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells Date: 10/4/2023

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

September 28, 2023

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request
James Ranch Unit Booster
Incident Number NAPP2319954265
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 assessment, delineation, excavation, and soil sampling activities performed at the James Ranch Unit Booster (Site). The purpose of the Site assessment, delineation, excavation, and soil sampling activities was to address impacts to soil resulting from a release of produced water at the Site. Based on excavation activities and laboratory analytical results from the soil sampling events, XTO is submitting this *Closure Request*, describing remedial actions that have occurred and requesting closure for Incident Number NAPP2319954265.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit E, Section 30, Township 21 South, Range 30 East, in Eddy County, New Mexico (32.45072°, -103.92541°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On July 5, 2023, a gasket on a temporary water transfer pump suction vacuum chamber failed, resulting in the release of 15.08 barrels (bbls) of produced water onto the ground surface of a right-of-way (ROW) and pasture area. Fluids on the ground surface were not able to be recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on July 18, 2023. The release was assigned Incident Number NAPP2319954265.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater well with depth to groundwater data are United States Geological Survey (USGS) wells 322642103555001 and 322641103554901. Both wells are located approximately 0.5 miles southwest of the Site, positioned next to each other, and were drilled to a total depth of 220 feet and 210 feet bgs, respectively. Both groundwater wells have a reported depth to groundwater of 185 feet bgs; however, the last depth to groundwater recorded for these wells exceed 25 years in age.

The next closest permitted ground water well is New Mexico Office of the State Engineer (OSE) groundwater well C-04374. OSE well C-04374 is located just outside of the USGS wells, approximately 0.53 mile southwest of the Site. The groundwater well has a reported depth to groundwater of 194 feet bgs and a total depth of 245 feet bgs, which corroborates the depth to groundwater in this region and reasonably estimates the depth to groundwater related to this 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 an intermittent dry wash, located approximately 333 feet southeast 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 (medium potential karst designation area). All potential Site receptors are presented on Figure 1.

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On July 31, 2023, Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven delineation soil samples (SS01 through SS07) were collected at a depth of 0.5 feet bgs to assess the extent of the release. Soil samples SS01 through SS03 were collected within the release area and soil samples SS04 through SS07 were collected outside the release area to confirm the lateral extent of the release. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH- GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they were collected may not have equilibrated to 6 degrees Celsius required for shipment and long term storage but are considered to have been received in acceptable condition by the laboratory.

Laboratory analytical results for delineation soil samples SS01 through SS03 indicated chloride and TPH concentrations exceeded the Closure Criteria and/or reclamation requirement. Based on laboratory analytical results for soil samples SS01 through SS03, additional delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

On August 24, 2023, Ensolum personnel returned to the Site to oversee delineation and excavation activities. Three boreholes (BH01 through BH03) were advanced via hand auger within the release extent to assess the vertical extent of impacted soil. The boreholes were advanced to depths ranging from 1-foot to 4 feet bgs. Discrete soil samples were collected at the terminal depths of each borehole at depths ranging from 1-foot to 4 feet bgs. Soil from the boreholes were field screened as described above. Field screening results and observations for all boreholes were logged on lithologic soil sampling logs, which are included in Appendix B. All boreholes and delineation soil sample locations are depicted on Figure 3.

Impacted soil was excavated from the release area as indicated by delineation field screening results and laboratory analytical results. Excavation activities were performed utilizing heavy equipment and transport vehicles. The excavation occurred on the ROW and on the edge of a pasture area. To direct excavation activities, soil was screened as described above. The excavation was completed to depths ranging from 1-foot to 4 feet bgs. Photographic documentation of the excavation activities is included in Appendix C.

Following removal of the impacted soil, 5-point composite soil samples were collected at least every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW07 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. Composite soil samples FS01 through FS21 were collected from the floor of the excavation at depths ranging from 1-foot to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The excavation area measured approximately 3,462 square feet. A total of approximately 407 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Facility located in Hobbs, New Mexico.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for boreholes BH01 through BH03 and all final confirmation soil samples collected from the final excavation extent were compliant with the Closure Criteria and and/or the reclamation requirement within the top 4 feet of the ROW and pasture area. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix D.

CLOSURE REQUEST

Site assessment, delineation, and excavation activities were conducted at the Site to address the July 2023 release of produced water. Laboratory analytical results for all excavation soil samples collected from the final excavation extent indicated all COC concentrations were compliant with the Site Closure Criteria and/or the reclamation requirement. Based on the soil sample analytical results, no further remediation was required. XTO backfilled the excavation on September 8, 2023, with material purchased

locally and recontoured the Site to match pre-existing Site conditions. The pasture area affected by the release will be reseeded with an approved BLM seed mixture.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2319954265.

If you have any questions or comments, please contact Mr. Benjamin Belill at (989) 854-0852 or bbelill@ensolum.com.

Sincerely,
Ensolum, LLC

Mariaha O'Dell

Mariaha O'Dell
Staff Geologist

Daniel R. Moir, PG
Senior Managing Geologist

cc: Garrett Green, XTO
Tommee Lambert, XTO
BLM

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Lithologic Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Correspondence

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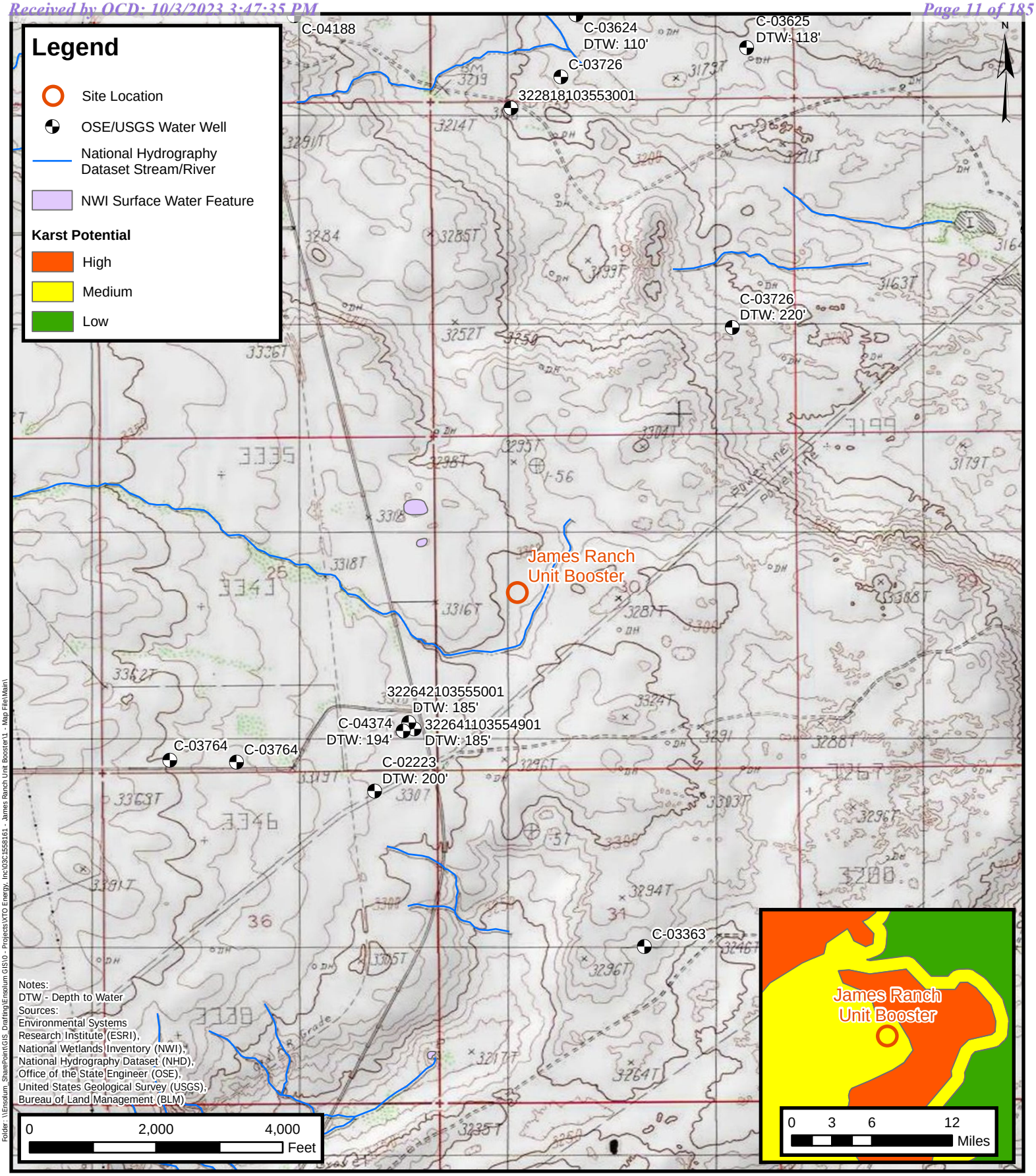
FIGURES



Folder: \\Ensolum SharePoint\GIS_Drafting\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558161 - James Ranch Unit Booster\1 - Map File\Main\

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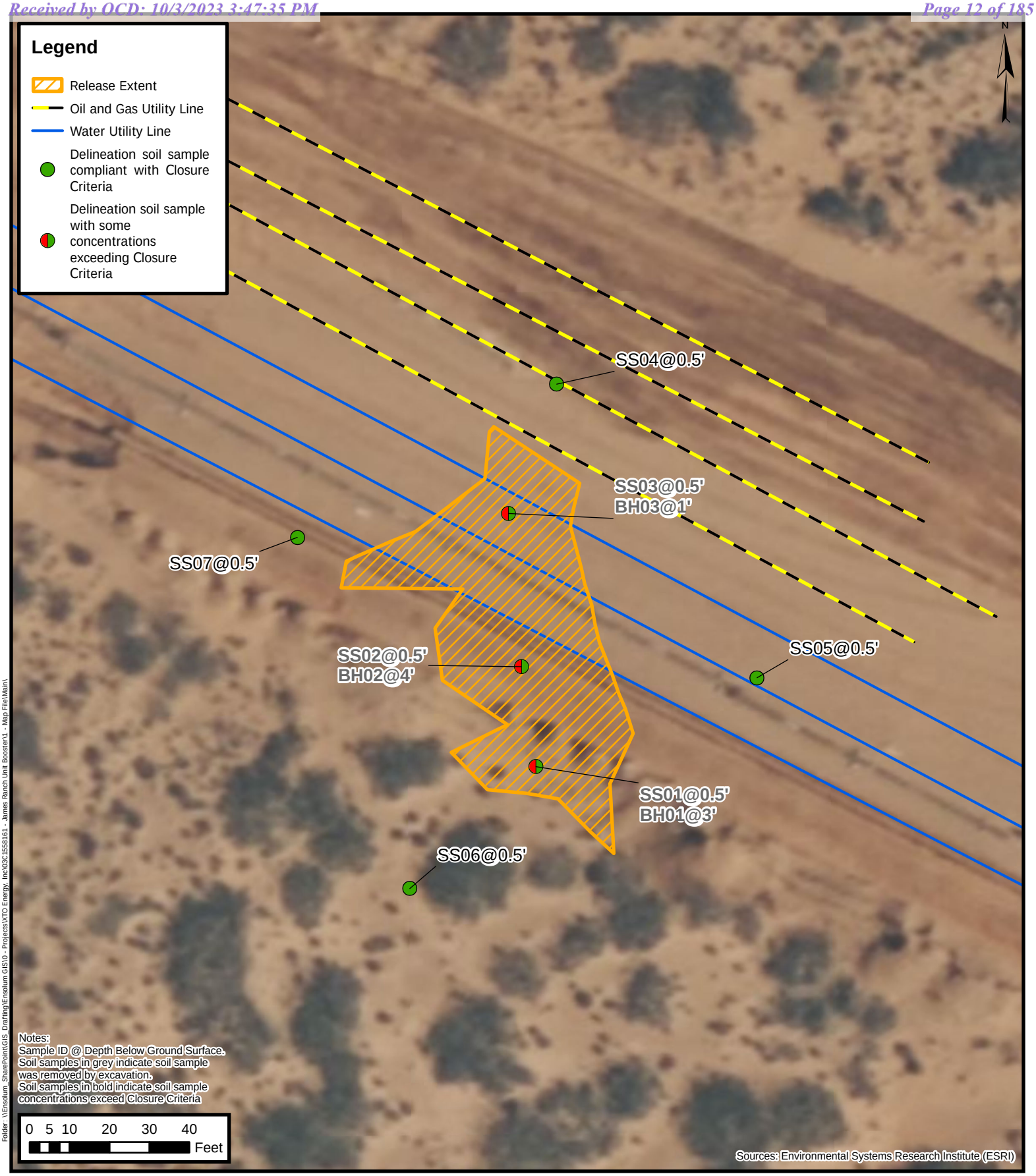
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
James Ranch Unit Booster
Incident Number: NAPP2319954265
Unit E, Sec 30, T21S, R30E
Eddy County, NM

FIGURE 1



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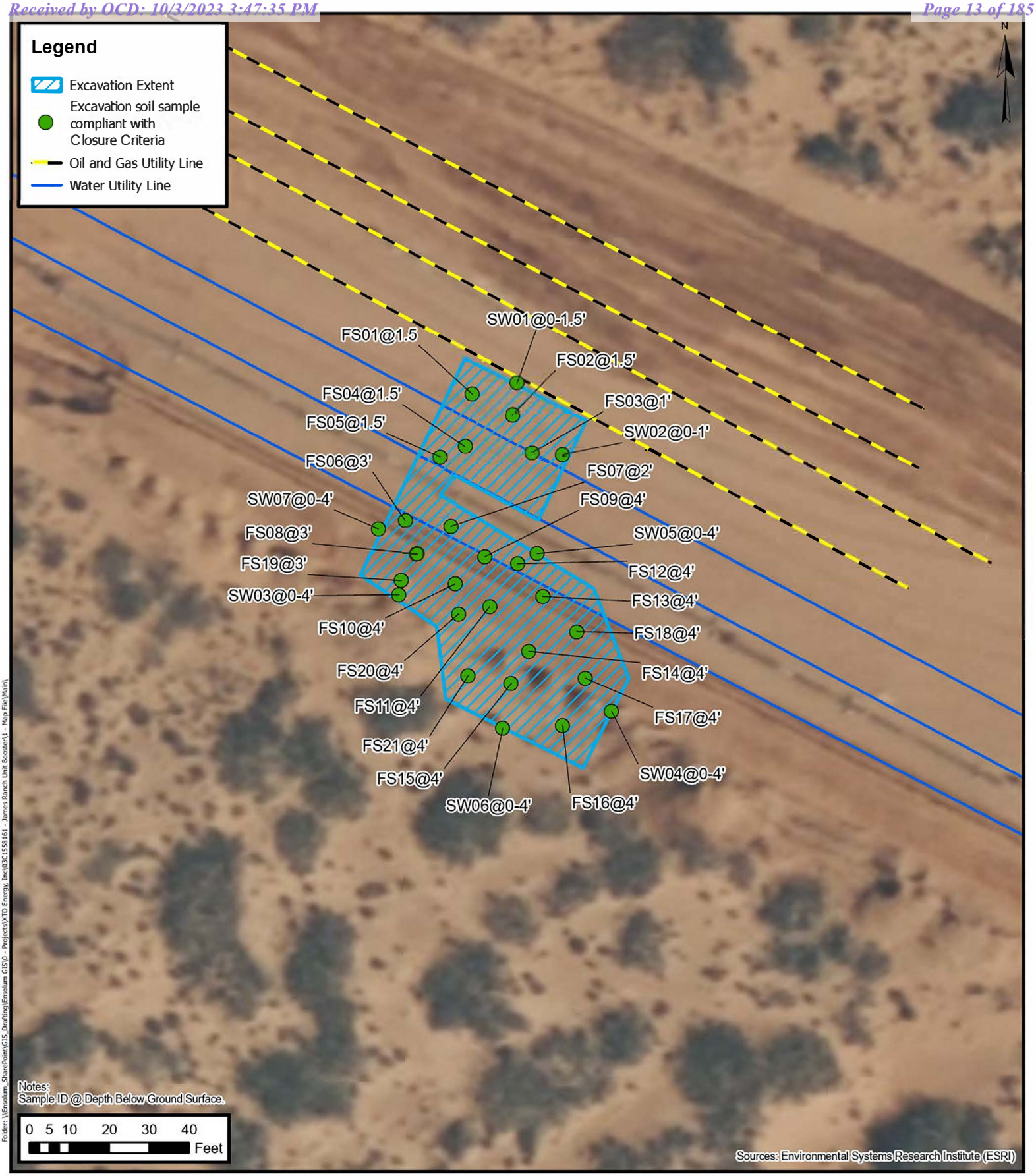
Delineation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit Booster
Incident Number: NAPP2319954265
Unit E, Sec 30, T21S, R30E
Eddy County, NM

FIGURE 2



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Excavation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit Booster
Incident Number: NAPP2319954265
Unit E, Sec 30, T21S, R30E
Eddy County, NM

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
James Ranch Unit Booster
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 I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
~~SS01~~	~~07/31/2023~~	~~0.5~~	~~<0.00200~~	~~<0.00399~~	~~<50.3~~	~~195~~	~~<50.3~~	~~195~~	~~**195**~~	~~**16,900**~~
~~BH01~~	~~08/24/2023~~	~~3~~	~~<0.00198~~	~~<0.00397~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~<49.8~~	~~474~~
~~SS02~~	~~07/31/2023~~	~~0.5~~	~~<0.00198~~	~~<0.00397~~	~~<50.3~~	~~377~~	~~<50.3~~	~~377~~	~~**377**~~	~~**34,300**~~
~~BH02~~	~~08/24/2023~~	~~4~~	~~<0.00201~~	~~<0.00402~~	~~<50.2~~	~~<50.2~~	~~<50.2~~	~~<50.2~~	~~<50.2~~	~~396~~
~~SS03~~	~~07/31/2023~~	~~0.5~~	~~<0.00202~~	~~<0.00403~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~**23,300**~~
~~BH03~~	~~08/24/2023~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~<50.4~~	~~99.0~~
SS04	07/31/2023	0.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	437
SS05	07/31/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	104
SS06	07/31/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	97.7
SS07	07/31/2023	0.5	<0.00200	<0.00400	<50.2	<50.2	<50.2	<50.2	<50.2	251
Confirmation Soil Samples										
FS01	08/25/2023	1.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	531
FS02	08/25/2023	1.5	<0.00198	<0.00397	<50.5	<50.5	<50.5	<50.5	<50.5	446
FS03	08/25/2023	1	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	173
FS04	08/25/2023	1.5	<0.00198	<0.00396	<49.6	<49.6	<49.6	<49.6	<49.6	132
FS05	08/28/2023	1.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	212
FS06	08/28/2023	3	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	124
FS07	08/28/2023	2	<0.00202	<0.00404	<50.5	<50.5	<50.5	<50.5	<50.5	274
FS08	08/28/2023	3	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	137
FS09	08/29/2023	4	<0.00198	<0.00396	<50.1	<50.1	<50.1	<50.1	<50.1	915
FS10	08/29/2023	4	<0.00202	<0.00403	<50.4	<50.4	<50.4	<50.4	<50.4	327
FS11	08/29/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	1,270
FS12	08/29/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	202
FS13	08/29/2023	4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	403
FS14	08/29/2023	4	<0.00202	<0.00403	<50.4	<50.4	<50.4	<50.4	<50.4	1,800
FS15	08/29/2023	4	<0.00198	<0.00396	<49.7	<49.7	<49.7	<49.7	<49.7	366
FS16	08/29/2023	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	1,430
FS17	08/29/2023	4	<0.00198	<0.00397	<49.7	<49.7	<49.7	<49.7	<49.7	1,220
FS18	08/29/2023	4	<0.00202	<0.00404	<50.3	<50.3	<50.3	<50.3	<50.3	152
FS19	08/29/2023	3	<0.00198	<0.00396	<50.5	<50.5	<50.5	<50.5	<50.5	252
FS20	08/29/2023	4	<0.00201	<0.00402	<49.5	<49.5	<49.5	<49.5	<49.5	277

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
James Ranch Unit Booster
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 I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
FS21	08/29/2023	4	<0.00202	<0.00403	<50.2	<50.2	<50.2	<50.2	<50.2	108
SW01	08/25/2023	0 - 1.5	<0.00198	<0.00396	<50.3	<50.3	<50.3	<50.3	<50.3	105
SW02	08/25/2023	0 - 1	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	124
SW03	08/29/2023	0 - 4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	69.7
SW04	08/29/2023	0 - 4	<0.00202	<0.00404	<49.6	<49.6	<49.6	<49.6	<49.6	265
SW05	08/29/2023	0 - 4	<0.00201	<0.00402	<50.4	<50.4	<50.4	<50.4	<50.4	244
SW06	08/29/2023	0 - 4	<0.00200	<0.00400	<50.2	<50.2	<50.2	<50.2	<50.2	123
SW07	08/29/2023	0 - 4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	93.6

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 I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

~~Grey~~ text indicates soil sample removed during excavation activities

ENSOLUM

APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

2019 DEC 26 AM 9:38

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
	2248C	C 04374

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Don Watts	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
PO BOX 209	Loving	NM	88256

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	26	41.11	N
	LONGITUDE	103	55	52.80	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE
1655 Potash Mines Rd, Carlsbad Nm

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD1058	GARY KEY	KEY'S DRILLING & PUMP SERVICE, INC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/3/19	12/4/19	245	245	194

COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)
STATIC WATER LEVEL IN COMPLETED WELL (FT): 194

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
-1.5	20	12-3/4"	STEEL		8"	.250	
-1.5	205	7-7/8"	PVC	SPLINE	4-1/2"	SCH 40	
205	245	7-7/8"	PVC	SPLINE	4-1/2"	SCH 40	.032

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	12-3/4"	CEMENT		HAND
20	245	7-7/8"	PEA GRAVEL		HAND

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4374	POD NO. 1	TRN NO. 660848	
LOCATION Dom Kim 21.29.25.444		WELL TAG ID NO. 2248C	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	5	5	TOP SOIL	Y ✓ N	
5	12	7	CALECHIE	Y ✓ N	
12	220	208	RED CLAY & SAND	✓ Y N	5.00
220	243	23	RED SANDSTONE	✓ Y N	25.00
243	245	2	BROWN CLAY	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☑ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 30.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: INSTALLED PERMANENT PUMP @ 25GPM

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

CASEY KEY

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

GARY KEY — SIGNATURE OF DRILLER / PRINT SIGNEE NAME

12-24-19 — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4374	POD NO. 1	TRN NO. 660848	
LOCATION Dona Ana 21.29.25.444		WELL TAG ID NO. 2268C	PAGE 2 OF 2

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 =
- 322642103555001

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

USGS 322642103555001 21S.29E.25.444111

Eddy County, New Mexico
Latitude 32°26'42", Longitude 103°55'50" NAD27
Land-surface elevation 3,310 feet above NAVD88
The depth of the well is 220 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 measur
1983-01-20		D	62610		3122.98	NGVD29	1	Z		
1983-01-20		D	62611		3124.60	NAVD88	1	Z		
1983-01-20		D	72019	185.40			1	Z		
1988-03-17		D	62610		3123.25	NGVD29	1	Z		
1988-03-17		D	62611		3124.87	NAVD88	1	Z		
1988-03-17		D	72019	185.13			1	Z		
1992-12-09		D	62610		3123.02	NGVD29	1	S		
1992-12-09		D	62611		3124.64	NAVD88	1	S		
1992-12-09		D	72019	185.36			1	S		
1998-01-28		D	62610		3122.84	NGVD29	1	S		
1998-01-28		D	62611		3124.46	NAVD88	1	S		
1998-01-28		D	72019	185.54			1	S		

Explanation

Section	Code	Description

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	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 or Comments
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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: 2023-07-31 15:21:32 EDT
0.27 0.24 nadww01

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- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322641103554901

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

USGS 322641103554901 21S.29E.25.444110

Eddy County, New Mexico
Latitude 32°26'41", Longitude 103°55'49" NAD27
Land-surface elevation 3,310 feet above NAVD88
The depth of the well is 210 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 measur
1983-01-18		D	62610		3122.78	NGVD29	1	Z		
1983-01-18		D	62611		3124.40	NAVD88	1	Z		
1983-01-18		D	72019	185.60			1	Z		
1987-10-14		D	62610		3122.89	NGVD29	1	Z		
1987-10-14		D	62611		3124.51	NAVD88	1	Z		
1987-10-14		D	72019	185.49			1	Z		

Explanation

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

Section	Code	Description
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions or Comments
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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: 2023-09-27 00:02:17 EDT
0.49 0.4 nadww01

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: BH01	Date: 8/24/2023
	Site Name: James Ranch Unit Booster	
	Incident Number: NAPP2319954265	
	Job Number: 03C1558161	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.450648, -103.925422	Hole Diameter: 3.5"	Total Depth: 3'

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. All Chloride calculations were completed with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	26,639	7.2	Y	SS01	0.5			
D	4,945	0	N		1	1	SP	Sand. Reddish brown, very fine to fine grained, poorly graded, no odor, dry.
D	1,002	0	N		2	2		
D	302	0	N	BH01	3	3		

Total Depth @ 3' bgs.

ENSOLUM

	Sample Name: BH02	Date: 8/24/2023
	Site Name: James Ranch Unit Booster	
	Incident Number: NAPP2319954265	
	Job Number: 03C1558161	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.450724, -103.925427	Hole Diameter: 3.5"	Total Depth: 3'

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. All Chloride calculations were completed with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	37,705	10.1	Y	SS02	0.5			
D	2,223	0	N		1	1	SP	Sand. Reddish brown, very fine to fine grained, poorly graded, no odor, dry.
D	1,271	0	N		2	2		
D	633	0	N		3	3		
D	<173.6	0	N	BH02	4	4		

Total Depth @ 4' bgs.

ENSOLUM

	Sample Name: BH03	Date: 8/24/2023
	Site Name: James Ranch Unit Booster	
	Incident Number: NAPP2319954265	
	Job Number: 03C1558161	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.450817, -103.925430	Hole Diameter: 3.5"	Total Depth: 3'

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. All Chloride calculations were completed with a +40% correction factor.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	33,342	6.3	Y	SS03	0.5			
D	<173.6	0	N	BH03	1	1	SP	Sand. Reddish brown, very fine to fine grained, poorly graded, no odor, dry.

Total Depth @ 1' bgs.

ENSOLUM

APPENDIX C

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
James Ranch Unit Booster
Incident Number: NAPP2319954265

Photograph 1 Date: 07/31/2023
Description: Site assessment activities, release extent.
View: West

Photograph 2 Date: 07/31/2023
Description: Site assessment activities, release extent.
View: West

Photograph 3 Date: 08/29/2023
Description: Excavation activities.
View: Southwest

Photograph 4 Date: 08/29/2023
Description: Final excavation extent
View: Southeast

ENSOLUM

Photographic Log
XTO Energy, Inc
James Ranch Unit Booster
Incident Number: NAPP2319954265

Photograph 5 Date: 09/08/2023
Description: Excavation backfilled.
View: Southeast

Photograph 6 Date: 09/08/2023
Description: Excavation backfilled.
View: East

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 8/15/2023 1:08:42 PM

JOB DESCRIPTION

James Ranch Unit Booster
SDG NUMBER 03C1558261

JOB NUMBER

890-5013-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

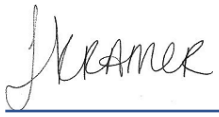
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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

Client: Ensolum
Project/Site: James Ranch Unit Booster

Laboratory Job ID: 890-5013-1
SDG: 03C1558261

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low 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: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Job ID: 890-5013-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5013-1

Receipt
The samples were received on 7/31/2023 1:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-5013-1), SS02 (890-5013-2), SS03 (890-5013-3), SS04 (890-5013-4), SS05 (890-5013-5), SS06 (890-5013-6) and SS07 (890-5013-7).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS02 (890-5013-2), SS04 (890-5013-4), SS05 (890-5013-5), SS06 (890-5013-6), SS07 (890-5013-7), (CCV 880-59604/2), (CCV 880-59604/20), (LCS 880-59609/1-A), (LCSD 880-59609/2-A), (MB 880-59609/5-A), (890-5013-A-2-C MS) and (890-5013-A-2-D MSD). Evidence of matrix interferences is not obvious.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-59604 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-59604/20).

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 laboratory control sample (LCS) associated with preparation batch 880-59649 and analytical batch 880-59688 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-59688 recovered above the upper control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-59688/31).

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: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS01

Lab Sample ID: 890-5013-1
Matrix: Solid
Date Collected: 07/31/23 10:15
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 02:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 02:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 02:17	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		08/07/23 14:10	08/08/23 02:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 02:17	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/07/23 14:10	08/08/23 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*57*	*S1-*	*70 - 130*	*08/07/23 14:10*	*08/08/23 02:17*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*08/07/23 14:10*	*08/08/23 02:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			08/15/23 10:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**195**		50.3		mg/Kg			08/09/23 18:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U *-	50.3		mg/Kg		08/08/23 15:08	08/09/23 10:25	1
Diesel Range Organics (Over C10-C28)	**195**		50.3		mg/Kg		08/08/23 15:08	08/09/23 10:25	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/08/23 15:08	08/09/23 10:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/08/23 15:08*	*08/09/23 10:25*	*1*
o-Terphenyl	*81*		*70 - 130*	*08/08/23 15:08*	*08/09/23 10:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16900**		99.8		mg/Kg			08/03/23 02:15	20

Client Sample ID: SS02

Lab Sample ID: 890-5013-2
Matrix: Solid
Date Collected: 07/31/23 10:20
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/08/23 09:29	08/08/23 12:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/08/23 09:29	08/08/23 12:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/08/23 09:29	08/08/23 12:23	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/08/23 09:29	08/08/23 12:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/08/23 09:29	08/08/23 12:23	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/08/23 09:29	08/08/23 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*56*	*S1-*	*70 - 130*	*08/08/23 09:29*	*08/08/23 12:23*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS02

Date Collected: 07/31/23 10:20
Date Received: 07/31/23 13:55
Sample Depth: 0.5

Lab Sample ID: 890-5013-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*08/08/23 09:29*	*08/08/23 12:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**377**		50.3	mg/Kg			08/10/23 10:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U *-	50.3	mg/Kg		08/08/23 15:08	08/09/23 15:38	1
Diesel Range Organics (Over C10-C28)	**377**		50.3	mg/Kg		08/08/23 15:08	08/09/23 15:38	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		08/08/23 15:08	08/09/23 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*08/08/23 15:08*	*08/09/23 15:38*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/08/23 15:08*	*08/09/23 15:38*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34300**		250	mg/Kg			08/03/23 02:33	50

Client Sample ID: SS03

Date Collected: 07/31/23 10:25
Date Received: 07/31/23 13:55
Sample Depth: 0.5

Lab Sample ID: 890-5013-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/08/23 09:29	08/08/23 12:49	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/08/23 09:29	08/08/23 12:49	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/08/23 09:29	08/08/23 12:49	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		08/08/23 09:29	08/08/23 12:49	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		08/08/23 09:29	08/08/23 12:49	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		08/08/23 09:29	08/08/23 12:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*08/08/23 09:29*	*08/08/23 12:49*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*08/08/23 09:29*	*08/08/23 12:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			08/10/23 10:27	1

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS03

Lab Sample ID: 890-5013-3
Matrix: Solid
Date Collected: 07/31/23 10:25
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U *-	50.4		mg/Kg		08/08/23 15:08	08/09/23 16:29	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/08/23 15:08	08/09/23 16:29	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/08/23 15:08	08/09/23 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/08/23 15:08*	*08/09/23 16:29*	*1*
o-Terphenyl	*84*		*70 - 130*	*08/08/23 15:08*	*08/09/23 16:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23300**		248		mg/Kg			08/03/23 02:39	50

Client Sample ID: SS04

Lab Sample ID: 890-5013-4
Matrix: Solid
Date Collected: 07/31/23 10:30
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/08/23 09:29	08/08/23 13:14	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/08/23 09:29	08/08/23 13:14	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/08/23 09:29	08/08/23 13:14	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/08/23 09:29	08/08/23 13:14	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/08/23 09:29	08/08/23 13:14	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/08/23 09:29	08/08/23 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*61*	*S1-*	*70 - 130*	*08/08/23 09:29*	*08/08/23 13:14*	*1*
1,4-Difluorobenzene (Surr)	*124*		*70 - 130*	*08/08/23 09:29*	*08/08/23 13:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			08/10/23 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U *-	50.5		mg/Kg		08/08/23 15:08	08/09/23 16:55	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/08/23 15:08	08/09/23 16:55	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/08/23 15:08	08/09/23 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*08/08/23 15:08*	*08/09/23 16:55*	*1*
o-Terphenyl	*81*		*70 - 130*	*08/08/23 15:08*	*08/09/23 16:55*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS04

Lab Sample ID: 890-5013-4
Matrix: Solid
Date Collected: 07/31/23 10:30
Date Received: 07/31/23 13:55
Sample Depth: 0.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	437		5.01		mg/Kg			08/03/23 02:45	1

Client Sample ID: SS05

Lab Sample ID: 890-5013-5
Matrix: Solid
Date Collected: 07/31/23 10:35
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 13:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 13:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 13:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/08/23 09:29	08/08/23 13:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 13:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/08/23 09:29	08/08/23 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*63*	*S1-*	*70 - 130*	*08/08/23 09:29*	*08/08/23 13:40*	*1*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*	*08/08/23 09:29*	*08/08/23 13:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/10/23 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *-	49.9		mg/Kg		08/08/23 15:08	08/09/23 17:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/08/23 15:08	08/09/23 17:21	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/08/23 15:08	08/09/23 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*08/08/23 15:08*	*08/09/23 17:21*	*1*
o-Terphenyl	*77*		*70 - 130*	*08/08/23 15:08*	*08/09/23 17:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	104		4.99		mg/Kg			08/03/23 02:51	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS06

Lab Sample ID: 890-5013-6
Matrix: Solid
Date Collected: 07/31/23 10:40
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/08/23 09:29	08/08/23 14:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/08/23 09:29	08/08/23 14:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/08/23 09:29	08/08/23 14:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/08/23 09:29	08/08/23 14:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/08/23 09:29	08/08/23 14:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/08/23 09:29	08/08/23 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*08/08/23 09:29*	*08/08/23 14:06*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*08/08/23 09:29*	*08/08/23 14:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/10/23 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U *-	49.6		mg/Kg		08/08/23 15:08	08/09/23 17:46	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/08/23 15:08	08/09/23 17:46	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/08/23 15:08	08/09/23 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*08/08/23 15:08*	*08/09/23 17:46*	*1*
o-Terphenyl	*71*		*70 - 130*	*08/08/23 15:08*	*08/09/23 17:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.7**		5.05		mg/Kg			08/03/23 03:10	1

Client Sample ID: SS07

Lab Sample ID: 890-5013-7
Matrix: Solid
Date Collected: 07/31/23 10:45
Date Received: 07/31/23 13:55
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 14:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 14:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 14:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/08/23 09:29	08/08/23 14:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 14:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/08/23 09:29	08/08/23 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*08/08/23 09:29*	*08/08/23 14:31*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS07
Date Collected: 07/31/23 10:45
Date Received: 07/31/23 13:55
Sample Depth: 0.5

Lab Sample ID: 890-5013-7
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*08/08/23 09:29*	*08/08/23 14:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			08/09/23 14:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			08/10/23 10:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U *-	50.2		mg/Kg		08/08/23 15:08	08/09/23 18:10	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/08/23 15:08	08/09/23 18:10	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/08/23 15:08	08/09/23 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*72*		*70 - 130*	*08/08/23 15:08*	*08/09/23 18:10*	*1*
o-Terphenyl	*71*		*70 - 130*	*08/08/23 15:08*	*08/09/23 18:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**251**		5.02		mg/Kg			08/03/23 03:16	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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)
890-5013-1	SS01	57 S1-	112
890-5013-1 MS	SS01	55 S1-	112
890-5013-1 MSD	SS01	59 S1-	122
890-5013-2	SS02	56 S1-	116
890-5013-2 MS	SS02	63 S1-	122
890-5013-2 MSD	SS02	54 S1-	113
890-5013-3	SS03	71	122
890-5013-4	SS04	61 S1-	124
890-5013-5	SS05	63 S1-	125
890-5013-6	SS06	66 S1-	123
890-5013-7	SS07	75	134 S1+
LCS 880-59521/1-A	Lab Control Sample	67 S1-	133 S1+
LCS 880-59609/1-A	Lab Control Sample	58 S1-	126
LCSD 880-59521/2-A	Lab Control Sample Dup	57 S1-	112
LCSD 880-59609/2-A	Lab Control Sample Dup	60 S1-	119
MB 880-59463/5-A	Method Blank	32 S1-	98
MB 880-59521/5-A	Method Blank	34 S1-	111
MB 880-59609/5-A	Method Blank	33 S1-	92

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)
890-5013-1	SS01	83	81
890-5013-1 MS	SS01	84	72
890-5013-1 MSD	SS01	85	72
890-5013-2	SS02	81	84
890-5013-3	SS03	83	84
890-5013-4	SS04	82	81
890-5013-5	SS05	78	77
890-5013-6	SS06	72	71
890-5013-7	SS07	72	71
LCS 880-59649/2-A	Lab Control Sample	95	92
LCSD 880-59649/3-A	Lab Control Sample Dup	86	80
MB 880-59649/1-A	Method Blank	70	73

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-59463/5-A
Matrix: Solid
Analysis Batch: 59419

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59463

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/07/23 09:51	08/07/23 12:28	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/07/23 09:51	08/07/23 12:28	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/07/23 09:51	08/07/23 12:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/07/23 09:51	08/07/23 12:28	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/07/23 09:51	08/07/23 12:28	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/07/23 09:51	08/07/23 12:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*32*	*S1-*	*70 - 130*	*08/07/23 09:51*	*08/07/23 12:28*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/07/23 09:51*	*08/07/23 12:28*	*1*

Lab Sample ID: MB 880-59521/5-A
Matrix: Solid
Analysis Batch: 59419

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59521

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 01:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 01:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 01:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/07/23 14:10	08/08/23 01:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/07/23 14:10	08/08/23 01:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/07/23 14:10	08/08/23 01:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*34*	*S1-*	*70 - 130*	*08/07/23 14:10*	*08/08/23 01:52*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*08/07/23 14:10*	*08/08/23 01:52*	*1*

Lab Sample ID: LCS 880-59521/1-A
Matrix: Solid
Analysis Batch: 59419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 59521

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1215		mg/Kg		121	70 - 130		
Toluene			0.100	0.1245		mg/Kg		124	70 - 130		
Ethylbenzene			0.100	0.1276		mg/Kg		128	70 - 130		
m-Xylene & p-Xylene			0.200	0.2647	*+	mg/Kg		132	70 - 130		
o-Xylene			0.100	0.1233		mg/Kg		123	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*67*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*133*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-59521/2-A
Matrix: Solid
Analysis Batch: 59419

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 59521

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1026		mg/Kg		103	70 - 130	17	35

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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

Lab Sample ID: LCSD 880-59521/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59419 — **Prep Batch: 59521**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1077		mg/Kg		108	70 - 130	14	35
Ethylbenzene			0.100	0.1087		mg/Kg		109	70 - 130	16	35
m-Xylene & p-Xylene			0.200	0.2209		mg/Kg		110	70 - 130	18	35
o-Xylene			0.100	0.1052		mg/Kg		105	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*57*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-5013-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59419 — **Prep Batch: 59521**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.1010		mg/Kg		101	70 - 130
Toluene	<0.00200	U	0.0996	0.09489		mg/Kg		94	70 - 130
Ethylbenzene	<0.00200	U	0.0996	0.09375		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00399	U *+	0.199	0.1880		mg/Kg		94	70 - 130
o-Xylene	<0.00200	U	0.0996	0.09642		mg/Kg		97	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*55*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-5013-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59419 — **Prep Batch: 59521**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0994	0.1066		mg/Kg		107	70 - 130	5	35
Toluene	<0.00200	U	0.0994	0.09986		mg/Kg		99	70 - 130	5	35
Ethylbenzene	<0.00200	U	0.0994	0.1038		mg/Kg		104	70 - 130	10	35
m-Xylene & p-Xylene	<0.00399	U *+	0.199	0.2078		mg/Kg		105	70 - 130	10	35
o-Xylene	<0.00200	U	0.0994	0.09398		mg/Kg		95	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*59*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*

Lab Sample ID: MB 880-59609/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 59604 — **Prep Batch: 59609**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 11:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 11:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 11:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/08/23 09:29	08/08/23 11:57	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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

Lab Sample ID: MB 880-59609/5-A
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59609

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/08/23 09:29	08/08/23 11:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/08/23 09:29	08/08/23 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*33*	*S1-*	*70 - 130*	*08/08/23 09:29*	*08/08/23 11:57*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/08/23 09:29*	*08/08/23 11:57*	*1*

Lab Sample ID: LCS 880-59609/1-A
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 59609

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1244		mg/Kg		124	70 - 130		
Toluene			0.100	0.1166		mg/Kg		117	70 - 130		
Ethylbenzene			0.100	0.1159		mg/Kg		116	70 - 130		
m-Xylene & p-Xylene			0.200	0.2488		mg/Kg		124	70 - 130		
o-Xylene			0.100	0.1150		mg/Kg		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*58*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*126*		*70 - 130*

Lab Sample ID: LCSD 880-59609/2-A
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 59609

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1206		mg/Kg		121	70 - 130	3	35
Toluene			0.100	0.1120		mg/Kg		112	70 - 130	4	35
Ethylbenzene			0.100	0.1140		mg/Kg		114	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2406		mg/Kg		120	70 - 130	3	35
o-Xylene			0.100	0.1129		mg/Kg		113	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*60*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*

Lab Sample ID: 890-5013-2 MS
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 59609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0996	0.1237		mg/Kg		124	70 - 130		
Toluene	<0.00198	U	0.0996	0.1194		mg/Kg		120	70 - 130		
Ethylbenzene	<0.00198	U	0.0996	0.1192		mg/Kg		119	70 - 130		
m-Xylene & p-Xylene	<0.00397	U	0.199	0.2516		mg/Kg		126	70 - 130		
o-Xylene	<0.00198	U	0.0996	0.1154		mg/Kg		116	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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

Lab Sample ID: 890-5013-2 MS
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 59609

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	63	S1-	70 - 130
1,4-Difluorobenzene (Surr)	122		70 - 130

Lab Sample ID: 890-5013-2 MSD
Matrix: Solid
Analysis Batch: 59604

Client Sample ID: SS02
Prep Type: Total/NA
Prep Batch: 59609

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0990	0.1076		mg/Kg		109	70 - 130	14	35
Toluene	<0.00198	U	0.0990	0.1055		mg/Kg		107	70 - 130	12	35
Ethylbenzene	<0.00198	U	0.0990	0.1073		mg/Kg		108	70 - 130	10	35
m-Xylene & p-Xylene	<0.00397	U	0.198	0.2326		mg/Kg		117	70 - 130	8	35
o-Xylene	<0.00198	U	0.0990	0.1003		mg/Kg		101	70 - 130	14	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	54	S1-	70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

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

Lab Sample ID: MB 880-59649/1-A
Matrix: Solid
Analysis Batch: 59688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 59649

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/08/23 15:08	08/09/23 07:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/08/23 15:08	08/09/23 07:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/08/23 15:08	08/09/23 07:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	08/08/23 15:08	08/09/23 07:43	1
o-Terphenyl	73		70 - 130	08/08/23 15:08	08/09/23 07:43	1

Lab Sample ID: LCS 880-59649/2-A
Matrix: Solid
Analysis Batch: 59688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 59649

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	682.9	*-	mg/Kg		68	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	846.5		mg/Kg		85	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	92		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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

Lab Sample ID: LCSD 880-59649/3-A
Matrix: Solid
Analysis Batch: 59688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 59649

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	685.2	*-	mg/Kg		69	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	808.7		mg/Kg		81	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 890-5013-1 MS
Matrix: Solid
Analysis Batch: 59688

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 59649

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.3	U *-	993	730.9		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	195		993	1030		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

Lab Sample ID: 890-5013-1 MSD
Matrix: Solid
Analysis Batch: 59688

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 59649

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	<50.3	U *-	993	753.7		mg/Kg		76	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	195		993	1046		mg/Kg		86	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-59035/1-A
Matrix: Solid
Analysis Batch: 59124

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/03/23 01:56	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-59035/2-A
Matrix: Solid
Analysis Batch: 59124

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	243.1		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-59035/3-A
Matrix: Solid
Analysis Batch: 59124

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	243.2		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-5013-1 MS
Matrix: Solid
Analysis Batch: 59124

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	16900		4990	22440		mg/Kg		110	90 - 110		

Lab Sample ID: 890-5013-1 MSD
Matrix: Solid
Analysis Batch: 59124

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	16900		4990	22230		mg/Kg		106	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

GC VOA

Analysis Batch: 59419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	8021B	59521
MB 880-59463/5-A	Method Blank	Total/NA	Solid	8021B	59463
MB 880-59521/5-A	Method Blank	Total/NA	Solid	8021B	59521
LCS 880-59521/1-A	Lab Control Sample	Total/NA	Solid	8021B	59521
LCSD 880-59521/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	59521
890-5013-1 MS	SS01	Total/NA	Solid	8021B	59521
890-5013-1 MSD	SS01	Total/NA	Solid	8021B	59521

Prep Batch: 59463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-59463/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 59521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	5035	
MB 880-59521/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-59521/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-59521/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5013-1 MS	SS01	Total/NA	Solid	5035	
890-5013-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 59604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-2	SS02	Total/NA	Solid	8021B	59609
890-5013-3	SS03	Total/NA	Solid	8021B	59609
890-5013-4	SS04	Total/NA	Solid	8021B	59609
890-5013-5	SS05	Total/NA	Solid	8021B	59609
890-5013-6	SS06	Total/NA	Solid	8021B	59609
890-5013-7	SS07	Total/NA	Solid	8021B	59609
MB 880-59609/5-A	Method Blank	Total/NA	Solid	8021B	59609
LCS 880-59609/1-A	Lab Control Sample	Total/NA	Solid	8021B	59609
LCSD 880-59609/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	59609
890-5013-2 MS	SS02	Total/NA	Solid	8021B	59609
890-5013-2 MSD	SS02	Total/NA	Solid	8021B	59609

Prep Batch: 59609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-2	SS02	Total/NA	Solid	5035	
890-5013-3	SS03	Total/NA	Solid	5035	
890-5013-4	SS04	Total/NA	Solid	5035	
890-5013-5	SS05	Total/NA	Solid	5035	
890-5013-6	SS06	Total/NA	Solid	5035	
890-5013-7	SS07	Total/NA	Solid	5035	
MB 880-59609/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-59609/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-59609/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5013-2 MS	SS02	Total/NA	Solid	5035	
890-5013-2 MSD	SS02	Total/NA	Solid	5035	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

GC VOA

Analysis Batch: 59769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	Total BTEX	
890-5013-2	SS02	Total/NA	Solid	Total BTEX	
890-5013-3	SS03	Total/NA	Solid	Total BTEX	
890-5013-4	SS04	Total/NA	Solid	Total BTEX	
890-5013-5	SS05	Total/NA	Solid	Total BTEX	
890-5013-6	SS06	Total/NA	Solid	Total BTEX	
890-5013-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 59649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	8015NM Prep	
890-5013-2	SS02	Total/NA	Solid	8015NM Prep	
890-5013-3	SS03	Total/NA	Solid	8015NM Prep	
890-5013-4	SS04	Total/NA	Solid	8015NM Prep	
890-5013-5	SS05	Total/NA	Solid	8015NM Prep	
890-5013-6	SS06	Total/NA	Solid	8015NM Prep	
890-5013-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-59649/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-59649/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-59649/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5013-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-5013-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 59688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	8015B NM	59649
890-5013-2	SS02	Total/NA	Solid	8015B NM	59649
890-5013-3	SS03	Total/NA	Solid	8015B NM	59649
890-5013-4	SS04	Total/NA	Solid	8015B NM	59649
890-5013-5	SS05	Total/NA	Solid	8015B NM	59649
890-5013-6	SS06	Total/NA	Solid	8015B NM	59649
890-5013-7	SS07	Total/NA	Solid	8015B NM	59649
MB 880-59649/1-A	Method Blank	Total/NA	Solid	8015B NM	59649
LCS 880-59649/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	59649
LCSD 880-59649/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	59649
890-5013-1 MS	SS01	Total/NA	Solid	8015B NM	59649
890-5013-1 MSD	SS01	Total/NA	Solid	8015B NM	59649

Analysis Batch: 59789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Total/NA	Solid	8015 NM	
890-5013-2	SS02	Total/NA	Solid	8015 NM	
890-5013-3	SS03	Total/NA	Solid	8015 NM	
890-5013-4	SS04	Total/NA	Solid	8015 NM	
890-5013-5	SS05	Total/NA	Solid	8015 NM	
890-5013-6	SS06	Total/NA	Solid	8015 NM	
890-5013-7	SS07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

HPLC/IC

Leach Batch: 59035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Soluble	Solid	DI Leach	
890-5013-2	SS02	Soluble	Solid	DI Leach	
890-5013-3	SS03	Soluble	Solid	DI Leach	
890-5013-4	SS04	Soluble	Solid	DI Leach	
890-5013-5	SS05	Soluble	Solid	DI Leach	
890-5013-6	SS06	Soluble	Solid	DI Leach	
890-5013-7	SS07	Soluble	Solid	DI Leach	
MB 880-59035/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-59035/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-59035/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5013-1 MS	SS01	Soluble	Solid	DI Leach	
890-5013-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 59124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5013-1	SS01	Soluble	Solid	300.0	59035
890-5013-2	SS02	Soluble	Solid	300.0	59035
890-5013-3	SS03	Soluble	Solid	300.0	59035
890-5013-4	SS04	Soluble	Solid	300.0	59035
890-5013-5	SS05	Soluble	Solid	300.0	59035
890-5013-6	SS06	Soluble	Solid	300.0	59035
890-5013-7	SS07	Soluble	Solid	300.0	59035
MB 880-59035/1-A	Method Blank	Soluble	Solid	300.0	59035
LCS 880-59035/2-A	Lab Control Sample	Soluble	Solid	300.0	59035
LCSD 880-59035/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	59035
890-5013-1 MS	SS01	Soluble	Solid	300.0	59035
890-5013-1 MSD	SS01	Soluble	Solid	300.0	59035

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS01
Date Collected: 07/31/23 10:15
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-1
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	59521	08/07/23 14:10	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59419	08/08/23 02:17	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/15/23 10:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/09/23 18:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 10:25	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	59124	08/03/23 02:15	CH	EET MID

Client Sample ID: SS02
Date Collected: 07/31/23 10:20
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-2
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	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 12:23	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 15:38	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		50	50 mL	50 mL	59124	08/03/23 02:33	CH	EET MID

Client Sample ID: SS03
Date Collected: 07/31/23 10:25
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 12:49	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 16:29	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		50	50 mL	50 mL	59124	08/03/23 02:39	CH	EET MID

Client Sample ID: SS04
Date Collected: 07/31/23 10:30
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 13:14	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS04
Date Collected: 07/31/23 10:30
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-4
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			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 16:55	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	59124	08/03/23 02:45	CH	EET MID

Client Sample ID: SS05
Date Collected: 07/31/23 10:35
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 13:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 17:21	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	59124	08/03/23 02:51	CH	EET MID

Client Sample ID: SS06
Date Collected: 07/31/23 10:40
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 14:06	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 17:46	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	59124	08/03/23 03:10	CH	EET MID

Client Sample ID: SS07
Date Collected: 07/31/23 10:45
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-7
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			5.00 g	5 mL	59609	08/08/23 09:29	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	59604	08/08/23 14:31	SM	EET MID
Total/NA	Analysis	Total BTEX		1			59769	08/09/23 14:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			59789	08/10/23 10:27	AJ	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	59649	08/08/23 15:08	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	59688	08/09/23 18:10	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Client Sample ID: SS07

Date Collected: 07/31/23 10:45
Date Received: 07/31/23 13:55

Lab Sample ID: 890-5013-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	59035	08/01/23 15:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	59124	08/03/23 03:16	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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	T104704400-23-26	06-30-24

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: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5013-1
SDG: 03C1558261

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5013-1	SS01	Solid	07/31/23 10:15	07/31/23 13:55	0.5
890-5013-2	SS02	Solid	07/31/23 10:20	07/31/23 13:55	0.5
890-5013-3	SS03	Solid	07/31/23 10:25	07/31/23 13:55	0.5
890-5013-4	SS04	Solid	07/31/23 10:30	07/31/23 13:55	0.5
890-5013-5	SS05	Solid	07/31/23 10:35	07/31/23 13:55	0.5
890-5013-6	SS06	Solid	07/31/23 10:40	07/31/23 13:55	0.5
890-5013-7	SS07	Solid	07/31/23 10:45	07/31/23 13:55	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 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	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:	James Ranch Unit Booster	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558261	Due Date:	
Project Location:	32.45012, -103.92541	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Meredith Roberts		
PO #:	9MR		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TW-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0
Total Containers:		Corrected Temperature:	1.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	TPH	Chlorides	BTEX	Sample Comments
SS01	S	7/31/23	1015	0.5'	G	1	X	X	X	Incident #: nAPP2319954265
SS02			1020							
SS03			1025							
SS04			1030							COST CENTER: PENDING
SS05			1035							
SS06			1040							
SS07			1045							mroberts@ensolum.com

MR

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			7.31.231355			
3				4		
5				6		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5013-1
SDG Number: 03C1558261

Login Number: 5013
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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5013-1
SDG Number: 03C1558261

Login Number: 5013
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/02/23 10:57 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

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

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JOB DESCRIPTION

James Ranch Unit Booster
SDG NUMBER 03C1558161

JOB NUMBER

890-5162-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

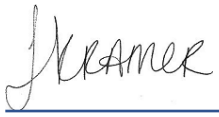
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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Authorized for release by
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Client: Ensolum
Project/Site: James Ranch Unit Booster

Laboratory Job ID: 890-5162-1
SDG: 03C1558161

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Definitions/Glossary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
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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
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.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: James Ranch Unit Booster

Job ID: 890-5162-1
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Job ID: 890-5162-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5162-1

Receipt
The samples were received on 8/25/2023 4:02 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-5162-1), FS02 (890-5162-2), FS03 (890-5162-3), FS04 (890-5162-4), SW01 (890-5162-5) and SW02 (890-5162-6).

GC VOA
Method 8021B: CCV was biased low for benzene. Another CCV was analyzed and acceptable within the method derived 12 hour window; therefore, the data was qualified and reported.(CCV 880-61519/33)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61602 and analytical batch 880-61519 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-32754-A-1-D MS) and (880-32754-A-1-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW02 (890-5162-6) and (880-32754-A-1-F). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61676 and analytical batch 880-61634 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
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61457 and analytical batch 880-61504 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS01 (890-5162-1), FS02 (890-5162-2), FS03 (890-5162-3), FS04 (890-5162-4), SW01 (890-5162-5), SW02 (890-5162-6), (890-5162-A-1-B MS) and (890-5162-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61504/20) and (CCV 880-61504/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike duplicate (MSD) recoveries for preparation batch 880-61457 and analytical batch 880-61504 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61532 and analytical batch 880-61600 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.

Case Narrative

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Job ID: 890-5162-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

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: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS01

Lab Sample ID: 890-5162-1
Matrix: Solid
Date Collected: 08/25/23 13:20
Date Received: 08/25/23 16:02
Sample Depth: 1.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 02:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 02:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 02:16	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		08/30/23 08:35	08/31/23 02:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 02:16	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		08/30/23 08:35	08/31/23 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/30/23 08:35*	*08/31/23 02:16*	*1*
1,4-Difluorobenzene (Surr)	*46*	*S1-*	*70 - 130*	*08/30/23 08:35*	*08/31/23 02:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			08/31/23 10:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/29/23 12:00	08/30/23 11:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U F1	49.9		mg/Kg		08/29/23 12:00	08/30/23 11:04	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/23 12:00	08/30/23 11:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 11:04*	*1*
o-Terphenyl	*125*		*70 - 130*	*08/29/23 12:00*	*08/30/23 11:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**531**	**F1**	5.04		mg/Kg			08/30/23 21:15	1

Client Sample ID: FS02

Lab Sample ID: 890-5162-2
Matrix: Solid
Date Collected: 08/25/23 13:25
Date Received: 08/25/23 16:02
Sample Depth: 1.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 02:37	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 02:37	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 02:37	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		08/30/23 08:35	08/31/23 02:37	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 02:37	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		08/30/23 08:35	08/31/23 02:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*08/30/23 08:35*	*08/31/23 02:37*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS02

Lab Sample ID: 890-5162-2
Matrix: Solid
Date Collected: 08/25/23 13:25
Date Received: 08/25/23 16:02
Sample Depth: 1.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*54*	*S1-*	*70 - 130*	*08/30/23 08:35*	*08/31/23 02:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			08/31/23 10:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		08/29/23 12:00	08/30/23 12:10	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		08/29/23 12:00	08/30/23 12:10	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		08/29/23 12:00	08/30/23 12:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:10*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**446**		4.97	mg/Kg			08/30/23 21:35	1

Client Sample ID: FS03

Lab Sample ID: 890-5162-3
Matrix: Solid
Date Collected: 08/25/23 12:30
Date Received: 08/25/23 16:02
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/30/23 08:35	08/31/23 02:57	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/30/23 08:35	08/31/23 02:57	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/30/23 08:35	08/31/23 02:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/30/23 08:35	08/31/23 02:57	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/30/23 08:35	08/31/23 02:57	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/30/23 08:35	08/31/23 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*08/30/23 08:35*	*08/31/23 02:57*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*08/30/23 08:35*	*08/31/23 02:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			08/31/23 10:48	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			08/31/23 10:35	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS03

Lab Sample ID: 890-5162-3
Matrix: Solid
Date Collected: 08/25/23 12:30
Date Received: 08/25/23 16:02
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/29/23 12:00	08/30/23 12:33	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/29/23 12:00	08/30/23 12:33	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/29/23 12:00	08/30/23 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:33*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**173**		4.98		mg/Kg			08/30/23 21:41	1

Client Sample ID: FS04

Lab Sample ID: 890-5162-4
Matrix: Solid
Date Collected: 08/25/23 13:30
Date Received: 08/25/23 16:02
Sample Depth: 1.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 03:17	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 03:17	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 03:17	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/30/23 08:35	08/31/23 03:17	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/30/23 08:35	08/31/23 03:17	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/30/23 08:35	08/31/23 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*08/30/23 08:35*	*08/31/23 03:17*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*08/30/23 08:35*	*08/31/23 03:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			08/31/23 10:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/29/23 12:00	08/30/23 12:55	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/29/23 12:00	08/30/23 12:55	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/29/23 12:00	08/30/23 12:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:55*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 12:55*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS04

Lab Sample ID: 890-5162-4
Matrix: Solid
Date Collected: 08/25/23 13:30
Date Received: 08/25/23 16:02
Sample Depth: 1.5

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	132		4.99		mg/Kg			08/30/23 21:47	1

Client Sample ID: SW01

Lab Sample ID: 890-5162-5
Matrix: Solid
Date Collected: 08/25/23 14:20
Date Received: 08/25/23 16:02
Sample Depth: 0 - 1.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:49	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:49	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:49	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		08/31/23 15:47	09/01/23 09:49	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		08/31/23 15:47	09/01/23 09:49	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		08/31/23 15:47	09/01/23 09:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:49*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/31/23 15:47*	*09/01/23 09:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/29/23 12:00	08/30/23 13:17	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/29/23 12:00	08/30/23 13:17	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/29/23 12:00	08/30/23 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 13:17*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 13:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		5.02		mg/Kg			08/30/23 21:54	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: SW02

Date Collected: 08/25/23 14:40
Date Received: 08/25/23 16:02
Sample Depth: 0 - 1

Lab Sample ID: 890-5162-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 10:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 10:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 10:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/31/23 15:47	09/01/23 10:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:47	09/01/23 10:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/31/23 15:47	09/01/23 10:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*08/31/23 15:47*	*09/01/23 10:10*	*1*
1,4-Difluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*08/31/23 15:47*	*09/01/23 10:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/01/23 11:10	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			08/31/23 10:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/29/23 12:00	08/30/23 13:39	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/29/23 12:00	08/30/23 13:39	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/29/23 12:00	08/30/23 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*147*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 13:39*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*08/29/23 12:00*	*08/30/23 13:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**124**		5.05		mg/Kg			08/30/23 22:13	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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)
880-32558-A-1-C MS	Matrix Spike	87	76
880-32558-A-1-D MSD	Matrix Spike Duplicate	90	73
880-32754-A-1-D MS	Matrix Spike	118	167 S1+
880-32754-A-1-E MSD	Matrix Spike Duplicate	225 S1+	99
890-5162-1	FS01	83	46 S1-
890-5162-2	FS02	107	54 S1-
890-5162-3	FS03	91	65 S1-
890-5162-4	FS04	139 S1+	72
890-5162-5	SW01	89	95
890-5162-6	SW02	113	139 S1+
LCS 880-61602/1-A	Lab Control Sample	140 S1+	112
LCS 880-61676/1-A	Lab Control Sample	81	99
LCSD 880-61602/2-A	Lab Control Sample Dup	146 S1+	113
LCSD 880-61676/2-A	Lab Control Sample Dup	92	97
MB 880-61572/5-A	Method Blank	76	81
MB 880-61602/5-A	Method Blank	80	80
MB 880-61615/5-A	Method Blank	103	122
MB 880-61676/5-A	Method Blank	104	126

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)
890-5162-1	FS01	132 S1+	125
890-5162-1 MS	FS01	137 S1+	114
890-5162-1 MSD	FS01	141 S1+	118
890-5162-2	FS02	139 S1+	135 S1+
890-5162-3	FS03	136 S1+	133 S1+
890-5162-4	FS04	151 S1+	142 S1+
890-5162-5	SW01	143 S1+	136 S1+
890-5162-6	SW02	147 S1+	139 S1+
LCS 880-61457/2-A	Lab Control Sample	109	123
LCSD 880-61457/3-A	Lab Control Sample Dup	111	116
MB 880-61457/1-A	Method Blank	136 S1+	137 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61572/5-A
Matrix: Solid
Analysis Batch: 61519

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61572

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/23 12:38	08/30/23 12:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/23 12:38	08/30/23 12:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/23 12:38	08/30/23 12:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/30/23 12:38	08/30/23 12:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/23 12:38	08/30/23 12:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/30/23 12:38	08/30/23 12:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*08/30/23 12:38*	*08/30/23 12:57*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*08/30/23 12:38*	*08/30/23 12:57*	*1*

Lab Sample ID: MB 880-61602/5-A
Matrix: Solid
Analysis Batch: 61519

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61602

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 00:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 00:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 00:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/30/23 08:35	08/31/23 00:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/23 08:35	08/31/23 00:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/30/23 08:35	08/31/23 00:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*08/30/23 08:35*	*08/31/23 00:13*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/30/23 08:35*	*08/31/23 00:13*	*1*

Lab Sample ID: LCS 880-61602/1-A
Matrix: Solid
Analysis Batch: 61519

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61602

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07135		mg/Kg		71	70 - 130		
Toluene			0.100	0.08583		mg/Kg		86	70 - 130		
Ethylbenzene			0.100	0.09784		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene			0.200	0.2168		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1101		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*140*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-61602/2-A
Matrix: Solid
Analysis Batch: 61519

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61602

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07676		mg/Kg		77	70 - 130	7	35

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Lab Sample ID: LCSD 880-61602/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61519 — **Prep Batch: 61602**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09134		mg/Kg		91	70 - 130	6	35
Ethylbenzene			0.100	0.1034		mg/Kg		103	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2307		mg/Kg		115	70 - 130	6	35
o-Xylene			0.100	0.1170		mg/Kg		117	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*146*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: 880-32558-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61519 — **Prep Batch: 61602**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U F1 F2	0.0996	0.02565	F1	mg/Kg		25	70 - 130
Toluene	<0.00198	U F1 F2	0.0996	0.03751	F1	mg/Kg		38	70 - 130
Ethylbenzene	<0.00198	U F1 F2	0.0996	0.02878	F1	mg/Kg		29	70 - 130
m-Xylene & p-Xylene	<0.00397	U F1 F2	0.199	0.05253	F1	mg/Kg		26	70 - 130
o-Xylene	<0.00198	U F1 F2	0.0996	0.02722	F1	mg/Kg		27	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*

Lab Sample ID: 880-32558-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61519 — **Prep Batch: 61602**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F1 F2	0.101	0.01712	F1 F2	mg/Kg		16	70 - 130	40	35
Toluene	<0.00198	U F1 F2	0.101	0.01883	F1 F2	mg/Kg		19	70 - 130	66	35
Ethylbenzene	<0.00198	U F1 F2	0.101	0.01036	F1 F2	mg/Kg		10	70 - 130	94	35
m-Xylene & p-Xylene	<0.00397	U F1 F2	0.202	0.01892	F1 F2	mg/Kg		9	70 - 130	94	35
o-Xylene	<0.00198	U F1 F2	0.101	0.01024	F1 F2	mg/Kg		10	70 - 130	91	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*

Lab Sample ID: MB 880-61615/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61634 — **Prep Batch: 61615**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 14:00	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Lab Sample ID: MB 880-61615/5-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61615

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 10:15	08/31/23 14:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 10:15	08/31/23 14:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*08/31/23 10:15*	*08/31/23 14:00*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*08/31/23 10:15*	*08/31/23 14:00*	*1*

Lab Sample ID: MB 880-61676/5-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61676

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:47	09/01/23 01:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 15:47	09/01/23 01:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*08/31/23 15:47*	*09/01/23 01:37*	*1*
1,4-Difluorobenzene (Surr)	*126*		*70 - 130*	*08/31/23 15:47*	*09/01/23 01:37*	*1*

Lab Sample ID: LCS 880-61676/1-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61676

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08766		mg/Kg		88	70 - 130		
Toluene			0.100	0.09048		mg/Kg		90	70 - 130		
Ethylbenzene			0.100	0.07820		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene			0.200	0.1585		mg/Kg		79	70 - 130		
o-Xylene			0.100	0.07601		mg/Kg		76	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-61676/2-A
Matrix: Solid
Analysis Batch: 61634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09768		mg/Kg		98	70 - 130	11	35
Toluene			0.100	0.09327		mg/Kg		93	70 - 130	3	35
Ethylbenzene			0.100	0.08518		mg/Kg		85	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.1840		mg/Kg		92	70 - 130	15	35
o-Xylene			0.100	0.08899		mg/Kg		89	70 - 130	16	35

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QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 880-32754-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61634 — **Prep Batch: 61676**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U F2	0.0996	0.1202		mg/Kg		121	70 - 130
Toluene	<0.00198	U F1	0.0996	0.04880	F1	mg/Kg		49	70 - 130
Ethylbenzene	<0.00198	U F1 F2	0.0996	0.04393	F1	mg/Kg		44	70 - 130
m-Xylene & p-Xylene	<0.00396	U F1 F2	0.199	0.1238	F1	mg/Kg		62	70 - 130
o-Xylene	<0.00198	U F1 F2	0.0996	0.06325	F1	mg/Kg		64	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	167	S1+	70 - 130

Lab Sample ID: 880-32754-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61634 — **Prep Batch: 61676**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F2	0.100	0.07856	F2	mg/Kg		78	70 - 130	42	35
Toluene	<0.00198	U F1	0.100	0.04205	F1	mg/Kg		42	70 - 130	15	35
Ethylbenzene	<0.00198	U F1 F2	0.100	0.06366	F1 F2	mg/Kg		64	70 - 130	37	35
m-Xylene & p-Xylene	<0.00396	U F1 F2	0.200	0.2163	F2	mg/Kg		108	70 - 130	54	35
o-Xylene	<0.00198	U F1 F2	0.100	0.1199	F2	mg/Kg		120	70 - 130	62	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	225	S1+	70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-61457/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61504 — **Prep Batch: 61457**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/29/23 12:00	08/30/23 08:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/29/23 12:00	08/30/23 08:32	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/29/23 12:00	08/30/23 08:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	136	S1+	70 - 130	08/29/23 12:00	08/30/23 08:32	1
o-Terphenyl	137	S1+	70 - 130	08/29/23 12:00	08/30/23 08:32	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Lab Sample ID: LCS 880-61457/2-A
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61457

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	954.7		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	982.2		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*123*		*70 - 130*

Lab Sample ID: LCSD 880-61457/3-A
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61457

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	927.4		mg/Kg		93	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	918.9		mg/Kg		92	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

Lab Sample ID: 890-5162-1 MS
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 61457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	930.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1010	1335		mg/Kg		130	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*137*	*S1+*	*70 - 130*
o-Terphenyl	*114*		*70 - 130*

Lab Sample ID: 890-5162-1 MSD
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 61457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1010	951.7		mg/Kg		91	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	1010	1375	F1	mg/Kg		134	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*141*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Lab Sample ID: 890-5162-1 MSD
Matrix: Solid
Analysis Batch: 61504

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 61457

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	118		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61532/1-A
Matrix: Solid
Analysis Batch: 61600

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/30/23 20:56	1

Lab Sample ID: LCS 880-61532/2-A
Matrix: Solid
Analysis Batch: 61600

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	238.5		mg/Kg		95	90 - 110		

Lab Sample ID: LCSD 880-61532/3-A
Matrix: Solid
Analysis Batch: 61600

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	249.1		mg/Kg		100	90 - 110	4	20

Lab Sample ID: 890-5162-1 MS
Matrix: Solid
Analysis Batch: 61600

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	531	F1	252	756.1	F1	mg/Kg		89	90 - 110		

Lab Sample ID: 890-5162-1 MSD
Matrix: Solid
Analysis Batch: 61600

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	531	F1	252	748.5	F1	mg/Kg		86	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

GC VOA

Analysis Batch: 61519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	8021B	61602
890-5162-2	FS02	Total/NA	Solid	8021B	61602
890-5162-3	FS03	Total/NA	Solid	8021B	61602
890-5162-4	FS04	Total/NA	Solid	8021B	61602
MB 880-61572/5-A	Method Blank	Total/NA	Solid	8021B	61572
MB 880-61602/5-A	Method Blank	Total/NA	Solid	8021B	61602
LCS 880-61602/1-A	Lab Control Sample	Total/NA	Solid	8021B	61602
LCSD 880-61602/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61602
880-32558-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	61602
880-32558-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61602

Prep Batch: 61572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61572/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 61602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	5035	
890-5162-2	FS02	Total/NA	Solid	5035	
890-5162-3	FS03	Total/NA	Solid	5035	
890-5162-4	FS04	Total/NA	Solid	5035	
MB 880-61602/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61602/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61602/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32558-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-32558-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 61615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61615/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 61631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	Total BTEX	
890-5162-2	FS02	Total/NA	Solid	Total BTEX	
890-5162-3	FS03	Total/NA	Solid	Total BTEX	
890-5162-4	FS04	Total/NA	Solid	Total BTEX	
890-5162-5	SW01	Total/NA	Solid	Total BTEX	
890-5162-6	SW02	Total/NA	Solid	Total BTEX	

Analysis Batch: 61634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-5	SW01	Total/NA	Solid	8021B	61676
890-5162-6	SW02	Total/NA	Solid	8021B	61676
MB 880-61615/5-A	Method Blank	Total/NA	Solid	8021B	61615
MB 880-61676/5-A	Method Blank	Total/NA	Solid	8021B	61676
LCS 880-61676/1-A	Lab Control Sample	Total/NA	Solid	8021B	61676
LCSD 880-61676/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61676
880-32754-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	61676
880-32754-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61676

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

GC VOA

Prep Batch: 61676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-5	SW01	Total/NA	Solid	5035	
890-5162-6	SW02	Total/NA	Solid	5035	
MB 880-61676/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61676/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61676/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-32754-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-32754-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 61457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	8015NM Prep	
890-5162-2	FS02	Total/NA	Solid	8015NM Prep	
890-5162-3	FS03	Total/NA	Solid	8015NM Prep	
890-5162-4	FS04	Total/NA	Solid	8015NM Prep	
890-5162-5	SW01	Total/NA	Solid	8015NM Prep	
890-5162-6	SW02	Total/NA	Solid	8015NM Prep	
MB 880-61457/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61457/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5162-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-5162-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	8015B NM	61457
890-5162-2	FS02	Total/NA	Solid	8015B NM	61457
890-5162-3	FS03	Total/NA	Solid	8015B NM	61457
890-5162-4	FS04	Total/NA	Solid	8015B NM	61457
890-5162-5	SW01	Total/NA	Solid	8015B NM	61457
890-5162-6	SW02	Total/NA	Solid	8015B NM	61457
MB 880-61457/1-A	Method Blank	Total/NA	Solid	8015B NM	61457
LCS 880-61457/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61457
LCSD 880-61457/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61457
890-5162-1 MS	FS01	Total/NA	Solid	8015B NM	61457
890-5162-1 MSD	FS01	Total/NA	Solid	8015B NM	61457

Analysis Batch: 61650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Total/NA	Solid	8015 NM	
890-5162-2	FS02	Total/NA	Solid	8015 NM	
890-5162-3	FS03	Total/NA	Solid	8015 NM	
890-5162-4	FS04	Total/NA	Solid	8015 NM	
890-5162-5	SW01	Total/NA	Solid	8015 NM	
890-5162-6	SW02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

HPLC/IC (Continued)

Leach Batch: 61532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-2	FS02	Soluble	Solid	DI Leach	
890-5162-3	FS03	Soluble	Solid	DI Leach	
890-5162-4	FS04	Soluble	Solid	DI Leach	
890-5162-5	SW01	Soluble	Solid	DI Leach	
890-5162-6	SW02	Soluble	Solid	DI Leach	
MB 880-61532/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61532/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61532/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5162-1 MS	FS01	Soluble	Solid	DI Leach	
890-5162-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 61600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5162-1	FS01	Soluble	Solid	300.0	61532
890-5162-2	FS02	Soluble	Solid	300.0	61532
890-5162-3	FS03	Soluble	Solid	300.0	61532
890-5162-4	FS04	Soluble	Solid	300.0	61532
890-5162-5	SW01	Soluble	Solid	300.0	61532
890-5162-6	SW02	Soluble	Solid	300.0	61532
MB 880-61532/1-A	Method Blank	Soluble	Solid	300.0	61532
LCS 880-61532/2-A	Lab Control Sample	Soluble	Solid	300.0	61532
LCSD 880-61532/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61532
890-5162-1 MS	FS01	Soluble	Solid	300.0	61532
890-5162-1 MSD	FS01	Soluble	Solid	300.0	61532

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS01
Date Collected: 08/25/23 13:20
Date Received: 08/25/23 16:02

Lab Sample ID: 890-5162-1
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			4.99 g	5 mL	61602	08/30/23 08:35	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61519	08/31/23 02:16	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	08/31/23 10:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 11:04	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 21:15	CH	EET MID

Client Sample ID: FS02
Date Collected: 08/25/23 13:25
Date Received: 08/25/23 16:02

Lab Sample ID: 890-5162-2
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	61602	08/30/23 08:35	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61519	08/31/23 02:37	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	08/31/23 10:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 12:10	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 21:35	CH	EET MID

Client Sample ID: FS03
Date Collected: 08/25/23 12:30
Date Received: 08/25/23 16:02

Lab Sample ID: 890-5162-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61602	08/30/23 08:35	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61519	08/31/23 02:57	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	08/31/23 10:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 12:33	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 21:41	CH	EET MID

Client Sample ID: FS04
Date Collected: 08/25/23 13:30
Date Received: 08/25/23 16:02

Lab Sample ID: 890-5162-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	61602	08/30/23 08:35	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61519	08/31/23 03:17	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	08/31/23 10:48	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Client Sample ID: FS04

Lab Sample ID: 890-5162-4
Matrix: Solid
Date Collected: 08/25/23 13:30
Date Received: 08/25/23 16:02

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			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 12:55	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 21:47	CH	EET MID

Client Sample ID: SW01

Lab Sample ID: 890-5162-5
Matrix: Solid
Date Collected: 08/25/23 14:20
Date Received: 08/25/23 16:02

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	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 09:49	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 13:17	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 21:54	CH	EET MID

Client Sample ID: SW02

Lab Sample ID: 890-5162-6
Matrix: Solid
Date Collected: 08/25/23 14:40
Date Received: 08/25/23 16:02

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	61676	08/31/23 15:47	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61634	09/01/23 10:10	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61631	09/01/23 11:10	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61650	08/31/23 10:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61457	08/29/23 12:00	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61504	08/30/23 13:39	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61532	08/30/23 10:30	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61600	08/30/23 22:13	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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	T104704400-23-26	06-30-24

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: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5162-1
SDG: 03C1558161

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5162-1	FS01	Solid	08/25/23 13:20	08/25/23 16:02	1.5
890-5162-2	FS02	Solid	08/25/23 13:25	08/25/23 16:02	1.5
890-5162-3	FS03	Solid	08/25/23 12:30	08/25/23 16:02	1
890-5162-4	FS04	Solid	08/25/23 13:30	08/25/23 16:02	1.5
890-5162-5	SW01	Solid	08/25/23 14:20	08/25/23 16:02	0 - 1.5
890-5162-6	SW02	Solid	08/25/23 14:40	08/25/23 16:02	0 - 1

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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
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852 Email:		Garrett.Green@ExxonMobil.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:	James Ranch Unit Booster	Turn Around	
Project Number:	03C1558161	☒ Routine ☐ Rush	
Project Location:	32.45072, -103.92541	Due Date:	5 days
Sampler's Name:	Mariana O'Dell	TAT starts the day received by the lab, if received by 4:30pm	
P.O. #:			

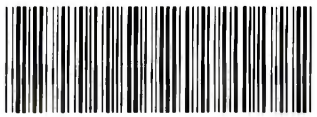
SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	6.0
Total Containers:		Corrected Temperature:	5.8

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	TPH	BTEX	Sample Comments
FS01	S	8/25/23	13:20	1.5'	C	1	X	X	X	Incident #:
FS02			13:25	1.5'						NAPP2319954265
FS03			12:30	1'						Cost Center:
FS04			13:30	1.5'						151082 71001, 1568311001
SW01			14:20	0-1.5'						1568271001
SW02			14:40	0-1'						API: 30-015-46194,
										30-015-46195,
										30-015-46933
										NM Ben Belill:
										bbelill@ensolum.com



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 M. O'Dell	Clue Gf	8.25.23 1602			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5162-1
SDG Number: 03C1558161

Login Number: 5162
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.	N/A	
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: 890-5162-1
SDG Number: 03C1558161

Login Number: 5162
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/29/23 10:38 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

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 9/1/2023 10:35:37 AM

JOB DESCRIPTION

JAMES RANCH UNIT BOOSTER
SDG NUMBER 03C1558161

JOB NUMBER

890-5174-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

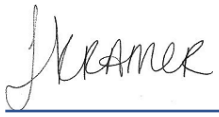
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



Generated
9/1/2023 10:35:37 AM

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

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Laboratory Job ID: 890-5174-1
SDG: 03C1558161

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
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: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Job ID: 890-5174-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5174-1

Receipt
The samples were received on 8/28/2023 4:12 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 3.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS05 (890-5174-1), FS06 (890-5174-2), FS07 (890-5174-3) and FS08 (890-5174-4).

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 880-61603 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-61603/20).

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-61603 recovered above the upper control limit for m-Xylene & p-Xylene and o-Xylene. Another CCV was analyzed and acceptable in the method derived 12 hour period; therefore, the data was qualified and reported. The associated sample is impacted: (CCV 880-61603/51).

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-61677 and analytical batch 880-61603 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-61677 and analytical batch 880-61603 recovered outside control limits for the following analytes: m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS however were acceptable in the LCSD; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS05 (890-5174-1), FS07 (890-5174-3) and FS08 (890-5174-4). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61574 and analytical batch 880-61588 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-5168-A-1-B) and (890-5168-A-1-C MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS06 (890-5174-2), FS07 (890-5174-3) and FS08 (890-5174-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-61588/20), (CCV 880-61588/31) and (CCV 880-61588/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-61574 and analytical batch 880-61588 was outside control limits. Sample non-homogeneity is suspected.

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

HPLC/IC

Case Narrative

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Job ID: 890-5174-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-61576 and analytical batch 880-61643 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.The associated samples are: FS05 (890-5174-1), FS06 (890-5174-2) and FS07 (890-5174-3).

Method 300_ORGFM_28D: The matrix spike duplicate (MSD) recoveries for preparation batch 880-61576 and analytical batch 880-61643 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.The associated samples are: FS08 (890-5174-4) and (890-5174-A-4-D MSD).

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

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS05

Lab Sample ID: 890-5174-1
Matrix: Solid
Date Collected: 08/28/23 10:20
Date Received: 08/28/23 16:12
Sample Depth: 1.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	09/01/23 01:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	09/01/23 01:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	09/01/23 01:35	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		08/31/23 15:57	09/01/23 01:35	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		08/31/23 15:57	09/01/23 01:35	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		08/31/23 15:57	09/01/23 01:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/31/23 15:57*	*09/01/23 01:35*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*08/31/23 15:57*	*09/01/23 01:35*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/01/23 10:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/01/23 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/30/23 15:11	08/31/23 17:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/23 15:11	08/31/23 17:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/23 15:11	08/31/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*08/30/23 15:11*	*08/31/23 17:25*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/30/23 15:11*	*08/31/23 17:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**212**		4.97		mg/Kg			08/31/23 13:02	1

Client Sample ID: FS06

Lab Sample ID: 890-5174-2
Matrix: Solid
Date Collected: 08/28/23 14:30
Date Received: 08/28/23 16:12
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:57	09/01/23 01:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:57	09/01/23 01:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/31/23 15:57	09/01/23 01:56	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		08/31/23 15:57	09/01/23 01:56	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		08/31/23 15:57	09/01/23 01:56	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		08/31/23 15:57	09/01/23 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/31/23 15:57*	*09/01/23 01:56*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS06

Lab Sample ID: 890-5174-2
Matrix: Solid
Date Collected: 08/28/23 14:30
Date Received: 08/28/23 16:12
Sample Depth: 3

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*08/31/23 15:57*	*09/01/23 01:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/01/23 10:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6	mg/Kg			09/01/23 09:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6	mg/Kg		08/30/23 15:11	08/31/23 17:47	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		08/30/23 15:11	08/31/23 17:47	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		08/30/23 15:11	08/31/23 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*131*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 17:47*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/30/23 15:11*	*08/31/23 17:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**124**		4.96	mg/Kg			08/31/23 13:08	1

Client Sample ID: FS07

Lab Sample ID: 890-5174-3
Matrix: Solid
Date Collected: 08/28/23 10:55
Date Received: 08/28/23 16:12
Sample Depth: 2

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		08/31/23 15:57	09/01/23 02:16	1
Toluene	<0.00202	U	0.00202	mg/Kg		08/31/23 15:57	09/01/23 02:16	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		08/31/23 15:57	09/01/23 02:16	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404	mg/Kg		08/31/23 15:57	09/01/23 02:16	1
o-Xylene	<0.00202	U *+	0.00202	mg/Kg		08/31/23 15:57	09/01/23 02:16	1
Xylenes, Total	<0.00404	U *+	0.00404	mg/Kg		08/31/23 15:57	09/01/23 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*08/31/23 15:57*	*09/01/23 02:16*	*1*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*08/31/23 15:57*	*09/01/23 02:16*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			09/01/23 10:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/01/23 09:19	1

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS07

Lab Sample ID: 890-5174-3
Matrix: Solid
Date Collected: 08/28/23 10:55
Date Received: 08/28/23 16:12
Sample Depth: 2

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/30/23 15:11	08/31/23 18:08	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/30/23 15:11	08/31/23 18:08	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/30/23 15:11	08/31/23 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 18:08*	*1*
o-Terphenyl	*120*		*70 - 130*	*08/30/23 15:11*	*08/31/23 18:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**274**		4.99		mg/Kg			08/31/23 13:15	1

Client Sample ID: FS08

Lab Sample ID: 890-5174-4
Matrix: Solid
Date Collected: 08/28/23 14:35
Date Received: 08/28/23 16:12
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:57	09/01/23 03:39	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:57	09/01/23 03:39	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/31/23 15:57	09/01/23 03:39	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/31/23 15:57	09/01/23 03:39	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/31/23 15:57	09/01/23 03:39	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		08/31/23 15:57	09/01/23 03:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*08/31/23 15:57*	*09/01/23 03:39*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*08/31/23 15:57*	*09/01/23 03:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			09/01/23 10:07	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			09/01/23 09:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		08/30/23 15:11	08/31/23 18:30	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/30/23 15:11	08/31/23 18:30	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/30/23 15:11	08/31/23 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 18:30*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 18:30*	*1*

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS08
Date Collected: 08/28/23 14:35
Date Received: 08/28/23 16:12
Sample Depth: 3

Lab Sample ID: 890-5174-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	137	F1	5.03		mg/Kg			08/31/23 13:21	1

Surrogate Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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)
890-5171-A-1-C MS	Matrix Spike	122	106
890-5171-A-1-D MSD	Matrix Spike Duplicate	124	108
890-5174-1	FS05	106	69 S1-
890-5174-2	FS06	106	73
890-5174-3	FS07	107	67 S1-
890-5174-4	FS08	136 S1+	73
LCS 880-61677/1-A	Lab Control Sample	129	123
LCSD 880-61677/2-A	Lab Control Sample Dup	127	106
MB 880-61581/5-A	Method Blank	75	77
MB 880-61677/5-A	Method Blank	78	80

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)
890-5168-A-1-C MS	Matrix Spike	131 S1+	102
890-5168-A-1-D MSD	Matrix Spike Duplicate	130	100
890-5174-1	FS05	130	111
890-5174-2	FS06	131 S1+	112
890-5174-3	FS07	139 S1+	120
890-5174-4	FS08	152 S1+	131 S1+
LCS 880-61574/2-A	Lab Control Sample	109	123
LCSD 880-61574/3-A	Lab Control Sample Dup	117	122
MB 880-61574/1-A	Method Blank	161 S1+	157 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61581/5-A
Matrix: Solid
Analysis Batch: 61603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61581

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/30/23 17:39	08/31/23 12:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/30/23 17:39	08/31/23 12:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/30/23 17:39	08/31/23 12:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/30/23 17:39	08/31/23 12:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/30/23 17:39	08/31/23 12:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/30/23 17:39	08/31/23 12:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*08/30/23 17:39*	*08/31/23 12:07*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*08/30/23 17:39*	*08/31/23 12:07*	*1*

Lab Sample ID: MB 880-61677/5-A
Matrix: Solid
Analysis Batch: 61603

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61677

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	08/31/23 22:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	08/31/23 22:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	08/31/23 22:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/31/23 15:57	08/31/23 22:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/31/23 15:57	08/31/23 22:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/31/23 15:57	08/31/23 22:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/31/23 15:57*	*08/31/23 22:50*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/31/23 15:57*	*08/31/23 22:50*	*1*

Lab Sample ID: LCS 880-61677/1-A
Matrix: Solid
Analysis Batch: 61603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61677

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1148		mg/Kg		115	70 - 130		
Toluene			0.100	0.1235		mg/Kg		123	70 - 130		
Ethylbenzene			0.100	0.1217		mg/Kg		122	70 - 130		
m-Xylene & p-Xylene			0.200	0.2713	*+	mg/Kg		136	70 - 130		
o-Xylene			0.100	0.1335	*+	mg/Kg		133	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: LCSD 880-61677/2-A
Matrix: Solid
Analysis Batch: 61603

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61677

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1039		mg/Kg		104	70 - 130	10	35

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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

Lab Sample ID: LCSD 880-61677/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61603 — **Prep Batch: 61677**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1183		mg/Kg		118	70 - 130	4	35
Ethylbenzene			0.100	0.1175		mg/Kg		117	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2599		mg/Kg		130	70 - 130	4	35
o-Xylene			0.100	0.1273		mg/Kg		127	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-5171-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61603 — **Prep Batch: 61677**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.03830	F1	mg/Kg		37	70 - 130
Toluene	<0.00200	U F1	0.0996	0.03580	F1	mg/Kg		36	70 - 130
Ethylbenzene	<0.00200	U F1	0.0996	0.02974	F1	mg/Kg		30	70 - 130
m-Xylene & p-Xylene	<0.00401	U *+ F1	0.199	0.05990	F1	mg/Kg		30	70 - 130
o-Xylene	<0.00200	U *+ F1	0.0996	0.03096	F1	mg/Kg		31	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-5171-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61603 — **Prep Batch: 61677**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.100	0.04498	F1	mg/Kg		44	70 - 130	16	35
Toluene	<0.00200	U F1	0.100	0.03854	F1	mg/Kg		39	70 - 130	7	35
Ethylbenzene	<0.00200	U F1	0.100	0.03083	F1	mg/Kg		31	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U *+ F1	0.200	0.06119	F1	mg/Kg		30	70 - 130	2	35
o-Xylene	<0.00200	U *+ F1	0.100	0.04314	F1	mg/Kg		43	70 - 130	33	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-61574/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61588 — **Prep Batch: 61574**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/30/23 15:11	08/31/23 08:03	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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

Lab Sample ID: MB 880-61574/1-A
Matrix: Solid
Analysis Batch: 61588

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61574

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		08/30/23 15:11	08/31/23 08:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/23 15:11	08/31/23 08:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*161*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 08:03*	*1*
o-Terphenyl	*157*	*S1+*	*70 - 130*	*08/30/23 15:11*	*08/31/23 08:03*	*1*

Lab Sample ID: LCS 880-61574/2-A
Matrix: Solid
Analysis Batch: 61588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61574

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	988.1		mg/Kg		99	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	973.8		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*123*		*70 - 130*

Lab Sample ID: LCSD 880-61574/3-A
Matrix: Solid
Analysis Batch: 61588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61574

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	992.6		mg/Kg		99	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	965.7		mg/Kg		97	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Lab Sample ID: 890-5168-A-1-C MS
Matrix: Solid
Analysis Batch: 61588

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61574

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.3	U F2	998	1297		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.3	U	998	1296		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*102*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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

Lab Sample ID: 890-5168-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61588 — **Prep Batch: 61574**

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	<50.3	U F2	998	886.2	F2	mg/Kg		85	70 - 130	38	20
Diesel Range Organics (Over C10-C28)	<50.3	U	998	1291		mg/Kg		125	70 - 130	0	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61576/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61643

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/31/23 11:25	1

Lab Sample ID: LCS 880-61576/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61643

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-61576/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61643

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	243.6		mg/Kg		97	90 - 110	2	20

Lab Sample ID: 890-5174-4 MS — **Client Sample ID: FS08**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61643

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	137	F1	252	399.0		mg/Kg		104	90 - 110		

Lab Sample ID: 890-5174-4 MSD — **Client Sample ID: FS08**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	137	F1	252	422.4	F1	mg/Kg		114	90 - 110	6	20

QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

GC VOA

Prep Batch: 61581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61581/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 61603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	8021B	61677
890-5174-2	FS06	Total/NA	Solid	8021B	61677
890-5174-3	FS07	Total/NA	Solid	8021B	61677
890-5174-4	FS08	Total/NA	Solid	8021B	61677
MB 880-61581/5-A	Method Blank	Total/NA	Solid	8021B	61581
MB 880-61677/5-A	Method Blank	Total/NA	Solid	8021B	61677
LCS 880-61677/1-A	Lab Control Sample	Total/NA	Solid	8021B	61677
LCSD 880-61677/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61677
890-5171-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	61677
890-5171-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	61677

Prep Batch: 61677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	5035	
890-5174-2	FS06	Total/NA	Solid	5035	
890-5174-3	FS07	Total/NA	Solid	5035	
890-5174-4	FS08	Total/NA	Solid	5035	
MB 880-61677/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61677/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61677/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5171-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-5171-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 61728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	Total BTEX	
890-5174-2	FS06	Total/NA	Solid	Total BTEX	
890-5174-3	FS07	Total/NA	Solid	Total BTEX	
890-5174-4	FS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	8015NM Prep	
890-5174-2	FS06	Total/NA	Solid	8015NM Prep	
890-5174-3	FS07	Total/NA	Solid	8015NM Prep	
890-5174-4	FS08	Total/NA	Solid	8015NM Prep	
MB 880-61574/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61574/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61574/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5168-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5168-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	8015B NM	61574

QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

GC Semi VOA (Continued)

Analysis Batch: 61588 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-2	FS06	Total/NA	Solid	8015B NM	61574
890-5174-3	FS07	Total/NA	Solid	8015B NM	61574
890-5174-4	FS08	Total/NA	Solid	8015B NM	61574
MB 880-61574/1-A	Method Blank	Total/NA	Solid	8015B NM	61574
LCS 880-61574/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61574
LCSD 880-61574/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61574
890-5168-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	61574
890-5168-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61574

Analysis Batch: 61747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Total/NA	Solid	8015 NM	
890-5174-2	FS06	Total/NA	Solid	8015 NM	
890-5174-3	FS07	Total/NA	Solid	8015 NM	
890-5174-4	FS08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Soluble	Solid	DI Leach	
890-5174-2	FS06	Soluble	Solid	DI Leach	
890-5174-3	FS07	Soluble	Solid	DI Leach	
890-5174-4	FS08	Soluble	Solid	DI Leach	
MB 880-61576/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61576/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61576/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5174-4 MS	FS08	Soluble	Solid	DI Leach	
890-5174-4 MSD	FS08	Soluble	Solid	DI Leach	

Analysis Batch: 61643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5174-1	FS05	Soluble	Solid	300.0	61576
890-5174-2	FS06	Soluble	Solid	300.0	61576
890-5174-3	FS07	Soluble	Solid	300.0	61576
890-5174-4	FS08	Soluble	Solid	300.0	61576
MB 880-61576/1-A	Method Blank	Soluble	Solid	300.0	61576
LCS 880-61576/2-A	Lab Control Sample	Soluble	Solid	300.0	61576
LCSD 880-61576/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61576
890-5174-4 MS	FS08	Soluble	Solid	300.0	61576
890-5174-4 MSD	FS08	Soluble	Solid	300.0	61576

Lab Chronicle

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS05

Date Collected: 08/28/23 10:20
Date Received: 08/28/23 16:12

Lab Sample ID: 890-5174-1
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	61677	08/31/23 15:57	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61603	09/01/23 01:35	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61728	09/01/23 10:07	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61747	09/01/23 09:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	61574	08/30/23 15:11	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61588	08/31/23 17:25	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61576	08/30/23 16:37	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61643	08/31/23 13:02	SMC	EET MID

Client Sample ID: FS06

Date Collected: 08/28/23 14:30
Date Received: 08/28/23 16:12

Lab Sample ID: 890-5174-2
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			5.02 g	5 mL	61677	08/31/23 15:57	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61603	09/01/23 01:56	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61728	09/01/23 10:07	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61747	09/01/23 09:19	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61574	08/30/23 15:11	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61588	08/31/23 17:47	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61576	08/30/23 16:37	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61643	08/31/23 13:08	SMC	EET MID

Client Sample ID: FS07

Date Collected: 08/28/23 10:55
Date Received: 08/28/23 16:12

Lab Sample ID: 890-5174-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61677	08/31/23 15:57	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61603	09/01/23 02:16	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61728	09/01/23 10:07	AJ	EET MID
Total/NA	Analysis	8015 NM		1			61747	09/01/23 09:19	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61574	08/30/23 15:11	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61588	08/31/23 18:08	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61576	08/30/23 16:37	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61643	08/31/23 13:15	SMC	EET MID

Client Sample ID: FS08

Date Collected: 08/28/23 14:35
Date Received: 08/28/23 16:12

Lab Sample ID: 890-5174-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	61677	08/31/23 15:57	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61603	09/01/23 03:39	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			61728	09/01/23 10:07	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Client Sample ID: FS08
Date Collected: 08/28/23 14:35
Date Received: 08/28/23 16:12

Lab Sample ID: 890-5174-4
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			61747	09/01/23 09:19	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61574	08/30/23 15:11	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61588	08/31/23 18:30	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61576	08/30/23 16:37	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	61643	08/31/23 13:21	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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	T104704400-23-26	06-30-24

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: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT BOOSTER

Job ID: 890-5174-1
SDG: 03C1558161

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5174-1	FS05	Solid	08/28/23 10:20	08/28/23 16:12	1.5
890-5174-2	FS06	Solid	08/28/23 14:30	08/28/23 16:12	3
890-5174-3	FS07	Solid	08/28/23 10:55	08/28/23 16:12	2
890-5174-4	FS08	Solid	08/28/23 14:35	08/28/23 16:12	3

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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
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852 Email:		Garrett.Green@ExxonMobil.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:	James Ranch Unit Booster	Turn Around	☒ Routine ☐ Rush
Project Number:	03C1558161		
Project Location:	32.45072, -103.92541	Due Date:	
Sampler's Name:	Mariana O'Dell	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#007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.8
Total Containers:		Corrected Temperature:	3.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	TPH	BTEX	Sample Comments
FS05	S	8/28/23	10:20	1.5'	C	1	X	X	X	Incident #: NAPP2319954205
FS06	S		14:30	3'	C	1				Cost Center: 1560827100I, 1560831100I, 1560827100I
FS07	S		10:55	2'	C	1				API: 30-015-46194, 30-015-46195, 30-015-46933
FS08	S		14:35	3'	C	1				Ben Belill: bbelill@ensolum.com

890-5174 Chain of Custody

NO

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	M. O'Dell		8.28.23 1612			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5174-1
SDG Number: 03C1558161

Login Number: 5174
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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5174-1
SDG Number: 03C1558161

Login Number: 5174
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 08/30/23 10:58 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

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JOB DESCRIPTION

James Ranch Unit Booster
SDG NUMBER 03C1558161

JOB NUMBER

890-5177-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

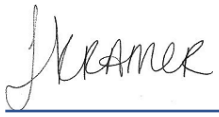
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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9/5/2023 5:19:11 PM

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

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-5177-1
Project/Site: James Ranch Unit Booster SDG: 03C1558161

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Job ID: 890-5177-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5177-1

Receipt
The samples were received on 8/29/2023 3:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS09 (890-5177-1), FS10 (890-5177-2), FS11 (890-5177-3), FS12 (890-5177-4), FS15 (890-5177-5), FS18 (890-5177-6), FS13 (890-5177-7), FS14 (890-5177-8), FS16 (890-5177-9), FS17 (890-5177-10), SW04 (890-5177-11), SW05 (890-5177-12), SW03 (890-5177-13), SW06 (890-5177-14), SW07 (890-5177-15), FS19 (890-5177-16), FS20 (890-5177-17) and FS21 (890-5177-18).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-61711 and analytical batch 880-61708 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-61711/1-A), (LCSD 880-61711/2-A), (890-5177-A-1-G MS) and (890-5177-A-1-H MSD). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS09 (890-5177-1), FS11 (890-5177-3), FS15 (890-5177-5), FS18 (890-5177-6), FS13 (890-5177-7) and FS14 (890-5177-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW04 (890-5177-11), SW05 (890-5177-12) and SW03 (890-5177-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS19 (890-5177-16) and FS21 (890-5177-18). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The method blank for preparation batch 880-61711 and analytical batch 880-61708 contained Benzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-61644 and analytical batch 880-61704 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-61644 and analytical batch 880-61704 was outside control limits. Sample non-homogeneity is suspected.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-61704 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: (CCV 880-61704/5) and (CCV 880-61704/58).

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.

Case Narrative

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Job ID: 890-5177-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS09

Lab Sample ID: 890-5177-1
Matrix: Solid
Date Collected: 08/29/23 09:50
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 11:51	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 11:51	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 11:51	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 11:51	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/01/23 09:05	09/01/23 11:51	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*09/01/23 09:05*	*09/01/23 11:51*	*1*
1,4-Difluorobenzene (Surr)	*58*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 11:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U F2	50.1		mg/Kg		08/31/23 12:17	09/01/23 10:25	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		08/31/23 12:17	09/01/23 10:25	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		08/31/23 12:17	09/01/23 10:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/31/23 12:17*	*09/01/23 10:25*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/31/23 12:17*	*09/01/23 10:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**915**		4.99		mg/Kg			09/01/23 16:12	1

Client Sample ID: FS10

Lab Sample ID: 890-5177-2
Matrix: Solid
Date Collected: 08/29/23 09:55
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 12:12	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 12:12	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 12:12	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403		mg/Kg		09/01/23 09:05	09/01/23 12:12	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		09/01/23 09:05	09/01/23 12:12	1
Xylenes, Total	<0.00403	U *+	0.00403		mg/Kg		09/01/23 09:05	09/01/23 12:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/01/23 09:05*	*09/01/23 12:12*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS10

Lab Sample ID: 890-5177-2
Matrix: Solid
Date Collected: 08/29/23 09:55
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*09/01/23 09:05*	*09/01/23 12:12*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 11:30	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 11:30	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/31/23 12:17*	*09/01/23 11:30*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/31/23 12:17*	*09/01/23 11:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**327**		5.04	mg/Kg			09/01/23 16:32	1

Client Sample ID: FS11

Lab Sample ID: 890-5177-3
Matrix: Solid
Date Collected: 08/29/23 10:00
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		09/01/23 09:05	09/01/23 12:32	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/01/23 09:05	09/01/23 12:32	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/01/23 09:05	09/01/23 12:32	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		09/01/23 09:05	09/01/23 12:32	1
o-Xylene	<0.00199	U *+	0.00199	mg/Kg		09/01/23 09:05	09/01/23 12:32	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		09/01/23 09:05	09/01/23 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/01/23 09:05*	*09/01/23 12:32*	*1*
1,4-Difluorobenzene (Surr)	*58*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 12:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			09/05/23 12:35	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS11

Lab Sample ID: 890-5177-3
Matrix: Solid
Date Collected: 08/29/23 10:00
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 11:51	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 11:51	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 11:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*08/31/23 12:17*	*09/01/23 11:51*	*1*
o-Terphenyl	*124*		*70 - 130*	*08/31/23 12:17*	*09/01/23 11:51*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1270**		5.02		mg/Kg			09/01/23 16:39	1

Client Sample ID: FS12

Lab Sample ID: 890-5177-4
Matrix: Solid
Date Collected: 08/29/23 10:30
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 12:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 12:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 12:52	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		09/01/23 09:05	09/01/23 12:52	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/01/23 09:05	09/01/23 12:52	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		09/01/23 09:05	09/01/23 12:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*09/01/23 09:05*	*09/01/23 12:52*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*09/01/23 09:05*	*09/01/23 12:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/31/23 12:17	09/01/23 12:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/31/23 12:17	09/01/23 12:13	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/31/23 12:17	09/01/23 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:13*	*1*
o-Terphenyl	*106*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:13*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS12

Lab Sample ID: 890-5177-4
Matrix: Solid
Date Collected: 08/29/23 10:30
Date Received: 08/29/23 15:00
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	202		4.96		mg/Kg			09/01/23 16:46	1

Client Sample ID: FS15

Lab Sample ID: 890-5177-5
Matrix: Solid
Date Collected: 08/29/23 10:35
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 13:13	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 13:13	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 13:13	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 13:13	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/01/23 09:05	09/01/23 13:13	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*09/01/23 09:05*	*09/01/23 13:13*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 13:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 12:34	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 12:34	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:34*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	366		5.05		mg/Kg			09/01/23 16:53	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS18

Lab Sample ID: 890-5177-6
Matrix: Solid
Date Collected: 08/29/23 10:40
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 13:33	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 13:33	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 13:33	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404		mg/Kg		09/01/23 09:05	09/01/23 13:33	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		09/01/23 09:05	09/01/23 13:33	1
Xylenes, Total	<0.00404	U *+	0.00404		mg/Kg		09/01/23 09:05	09/01/23 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*09/01/23 09:05*	*09/01/23 13:33*	*1*
1,4-Difluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 13:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 12:56	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 12:56	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 12:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:56*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/31/23 12:17*	*09/01/23 12:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**152**		5.04		mg/Kg			09/01/23 17:13	1

Client Sample ID: FS13

Lab Sample ID: 890-5177-7
Matrix: Solid
Date Collected: 08/29/23 10:45
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 13:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 13:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 13:54	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 13:54	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/01/23 09:05	09/01/23 13:54	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*09/01/23 09:05*	*09/01/23 13:54*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS13

Lab Sample ID: 890-5177-7
Matrix: Solid
Date Collected: 08/29/23 10:45
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 13:54*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1	mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1	mg/Kg		08/31/23 12:17	09/01/23 13:17	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1	mg/Kg		08/31/23 12:17	09/01/23 13:17	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1	mg/Kg		08/31/23 12:17	09/01/23 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*08/31/23 12:17*	*09/01/23 13:17*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/31/23 12:17*	*09/01/23 13:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**403**		5.02	mg/Kg			09/01/23 17:19	1

Client Sample ID: FS14

Lab Sample ID: 890-5177-8
Matrix: Solid
Date Collected: 08/29/23 10:50
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 14:14	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 14:14	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 14:14	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403	mg/Kg		09/01/23 09:05	09/01/23 14:14	1
o-Xylene	<0.00202	U *+	0.00202	mg/Kg		09/01/23 09:05	09/01/23 14:14	1
Xylenes, Total	<0.00403	U *+	0.00403	mg/Kg		09/01/23 09:05	09/01/23 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*09/01/23 09:05*	*09/01/23 14:14*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 14:14*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			09/05/23 12:35	1

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS14

Lab Sample ID: 890-5177-8
Matrix: Solid
Date Collected: 08/29/23 10:50
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/31/23 12:17	09/01/23 13:39	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/31/23 12:17	09/01/23 13:39	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/31/23 12:17	09/01/23 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/31/23 12:17*	*09/01/23 13:39*	*1*
o-Terphenyl	*124*		*70 - 130*	*08/31/23 12:17*	*09/01/23 13:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1800**		24.9		mg/Kg			09/01/23 17:26	5

Client Sample ID: FS16

Lab Sample ID: 890-5177-9
Matrix: Solid
Date Collected: 08/29/23 10:55
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 14:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 14:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 14:35	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		09/01/23 09:05	09/01/23 14:35	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/01/23 09:05	09/01/23 14:35	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		09/01/23 09:05	09/01/23 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*09/01/23 09:05*	*09/01/23 14:35*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*09/01/23 09:05*	*09/01/23 14:35*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			09/05/23 17:22	1

Method: SW846 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			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 14:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 14:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*08/31/23 12:17*	*09/01/23 14:00*	*1*
o-Terphenyl	*124*		*70 - 130*	*08/31/23 12:17*	*09/01/23 14:00*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS16

Lab Sample ID: 890-5177-9
Matrix: Solid
Date Collected: 08/29/23 10:55
Date Received: 08/29/23 15:00
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1430		4.98		mg/Kg			09/01/23 17:33	1

Client Sample ID: FS17

Lab Sample ID: 890-5177-10
Matrix: Solid
Date Collected: 08/29/23 11:00
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 14:55	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 14:55	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 14:55	1
m-Xylene & p-Xylene	<0.00397	U *+	0.00397		mg/Kg		09/01/23 09:05	09/01/23 14:55	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/01/23 09:05	09/01/23 14:55	1
Xylenes, Total	<0.00397	U *+	0.00397		mg/Kg		09/01/23 09:05	09/01/23 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/01/23 09:05*	*09/01/23 14:55*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/01/23 09:05*	*09/01/23 14:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 14:22	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 14:22	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		08/31/23 12:17	09/01/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*08/31/23 12:17*	*09/01/23 14:22*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/31/23 12:17*	*09/01/23 14:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1220		5.04		mg/Kg			09/01/23 17:39	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW04

Lab Sample ID: 890-5177-11
Matrix: Solid
Date Collected: 08/29/23 11:10
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 16:47	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 16:47	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/01/23 09:05	09/01/23 16:47	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404		mg/Kg		09/01/23 09:05	09/01/23 16:47	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		09/01/23 09:05	09/01/23 16:47	1
Xylenes, Total	<0.00404	U *+	0.00404		mg/Kg		09/01/23 09:05	09/01/23 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*09/01/23 09:05*	*09/01/23 16:47*	*1*
1,4-Difluorobenzene (Surr)	*59*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 16:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		08/31/23 12:17	09/01/23 15:05	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		08/31/23 12:17	09/01/23 15:05	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		08/31/23 12:17	09/01/23 15:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:05*	*1*
o-Terphenyl	*120*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**265**		4.96		mg/Kg			09/01/23 17:46	1

Client Sample ID: SW05

Lab Sample ID: 890-5177-12
Matrix: Solid
Date Collected: 08/29/23 11:15
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 17:07	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 17:07	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 17:07	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 17:07	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/01/23 09:05	09/01/23 17:07	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*09/01/23 09:05*	*09/01/23 17:07*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW05

Lab Sample ID: 890-5177-12
Matrix: Solid
Date Collected: 08/29/23 11:15
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*53*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 17:07*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 15:26	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 15:26	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		08/31/23 12:17	09/01/23 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*114*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:26*	*1*
o-Terphenyl	*123*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:26*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**244**		5.01	mg/Kg			09/01/23 18:06	1

Client Sample ID: SW03

Lab Sample ID: 890-5177-13
Matrix: Solid
Date Collected: 08/29/23 11:20
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		09/01/23 09:05	09/01/23 17:28	1
Toluene	<0.00200	U	0.00200	mg/Kg		09/01/23 09:05	09/01/23 17:28	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		09/01/23 09:05	09/01/23 17:28	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401	mg/Kg		09/01/23 09:05	09/01/23 17:28	1
o-Xylene	<0.00200	U *+	0.00200	mg/Kg		09/01/23 09:05	09/01/23 17:28	1
Xylenes, Total	<0.00401	U *+	0.00401	mg/Kg		09/01/23 09:05	09/01/23 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*09/01/23 09:05*	*09/01/23 17:28*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*09/01/23 09:05*	*09/01/23 17:28*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			09/05/23 17:22	1

Method: SW846 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			09/05/23 12:35	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW03

Lab Sample ID: 890-5177-13
Matrix: Solid
Date Collected: 08/29/23 11:20
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 15:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 15:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/31/23 12:17	09/01/23 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:48*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/31/23 12:17*	*09/01/23 15:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.7**		5.02		mg/Kg			09/01/23 18:13	1

Client Sample ID: SW06

Lab Sample ID: 890-5177-14
Matrix: Solid
Date Collected: 08/29/23 11:30
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 17:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 17:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 17:48	1
m-Xylene & p-Xylene	<0.00400	U *+	0.00400		mg/Kg		09/01/23 09:05	09/01/23 17:48	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/01/23 09:05	09/01/23 17:48	1
Xylenes, Total	<0.00400	U *+	0.00400		mg/Kg		09/01/23 09:05	09/01/23 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/01/23 09:05*	*09/01/23 17:48*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*09/01/23 09:05*	*09/01/23 17:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 16:10	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 16:10	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:10*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:10*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW06

Lab Sample ID: 890-5177-14
Matrix: Solid
Date Collected: 08/29/23 11:30
Date Received: 08/29/23 15:00
Sample Depth: 0-4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		5.05		mg/Kg			09/01/23 18:33	1

Client Sample ID: SW07

Lab Sample ID: 890-5177-15
Matrix: Solid
Date Collected: 08/29/23 11:35
Date Received: 08/29/23 15:00
Sample Depth: 0-4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/01/23 09:05	09/01/23 18:09	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/23 09:05	09/01/23 18:09	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/23 09:05	09/01/23 18:09	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		09/01/23 09:05	09/01/23 18:09	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/01/23 09:05	09/01/23 18:09	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		09/01/23 09:05	09/01/23 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*09/01/23 09:05*	*09/01/23 18:09*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*09/01/23 09:05*	*09/01/23 18:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 16:31	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 16:31	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		08/31/23 12:17	09/01/23 16:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:31*	*1*
o-Terphenyl	*120*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:31*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93.6		4.99		mg/Kg			09/01/23 18:39	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS19

Lab Sample ID: 890-5177-16
Matrix: Solid
Date Collected: 08/29/23 12:30
Date Received: 08/29/23 15:00
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 18:29	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 18:29	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/01/23 09:05	09/01/23 18:29	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 18:29	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/01/23 09:05	09/01/23 18:29	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		09/01/23 09:05	09/01/23 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*09/01/23 09:05*	*09/01/23 18:29*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*09/01/23 09:05*	*09/01/23 18:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5		mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 16:53	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 16:53	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		08/31/23 12:17	09/01/23 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:53*	*1*
o-Terphenyl	*114*		*70 - 130*	*08/31/23 12:17*	*09/01/23 16:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**252**		4.97		mg/Kg			09/01/23 18:46	1

Client Sample ID: FS20

Lab Sample ID: 890-5177-17
Matrix: Solid
Date Collected: 08/29/23 13:00
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 18:50	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 18:50	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/01/23 09:05	09/01/23 18:50	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 18:50	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/01/23 09:05	09/01/23 18:50	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		09/01/23 09:05	09/01/23 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*09/01/23 09:05*	*09/01/23 18:50*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS20

Lab Sample ID: 890-5177-17
Matrix: Solid
Date Collected: 08/29/23 13:00
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*09/01/23 09:05*	*09/01/23 18:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.5	U	49.5	mg/Kg			09/05/23 12:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.5	U	49.5	mg/Kg		08/31/23 12:17	09/01/23 17:14	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5	mg/Kg		08/31/23 12:17	09/01/23 17:14	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5	mg/Kg		08/31/23 12:17	09/01/23 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*08/31/23 12:17*	*09/01/23 17:14*	*1*
o-Terphenyl	*116*		*70 - 130*	*08/31/23 12:17*	*09/01/23 17:14*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**277**		5.03	mg/Kg			09/01/23 18:53	1

Client Sample ID: FS21

Lab Sample ID: 890-5177-18
Matrix: Solid
Date Collected: 08/29/23 13:05
Date Received: 08/29/23 15:00
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 19:10	1
Toluene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 19:10	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		09/01/23 09:05	09/01/23 19:10	1
m-Xylene & p-Xylene	<0.00403	U *+	0.00403	mg/Kg		09/01/23 09:05	09/01/23 19:10	1
o-Xylene	<0.00202	U *+	0.00202	mg/Kg		09/01/23 09:05	09/01/23 19:10	1
Xylenes, Total	<0.00403	U *+	0.00403	mg/Kg		09/01/23 09:05	09/01/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*09/01/23 09:05*	*09/01/23 19:10*	*1*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*09/01/23 09:05*	*09/01/23 19:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			09/05/23 17:22	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			09/05/23 12:35	1

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Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS21

Date Collected: 08/29/23 13:05
Date Received: 08/29/23 15:00
Sample Depth: 4

Lab Sample ID: 890-5177-18

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 17:36	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 17:36	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		08/31/23 12:17	09/01/23 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/31/23 12:17*	*09/01/23 17:36*	*1*
o-Terphenyl	*109*		*70 - 130*	*08/31/23 12:17*	*09/01/23 17:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**108**		5.04		mg/Kg			09/01/23 19:00	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

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)
890-5177-1	FS09	95	58 S1-
890-5177-1 MS	FS09	134 S1+	119
890-5177-1 MSD	FS09	136 S1+	116
890-5177-2	FS10	97	73
890-5177-3	FS11	100	58 S1-
890-5177-4	FS12	96	71
890-5177-5	FS15	92	69 S1-
890-5177-6	FS18	92	68 S1-
890-5177-7	FS13	95	66 S1-
890-5177-8	FS14	91	69 S1-
890-5177-9	FS16	125	71
890-5177-10	FS17	100	93
890-5177-11	SW04	99	59 S1-
890-5177-12	SW05	101	53 S1-
890-5177-13	SW03	132 S1+	81
890-5177-14	SW06	89	89
890-5177-15	SW07	88	73
890-5177-16	FS19	131 S1+	79
890-5177-17	FS20	129	84
890-5177-18	FS21	94	66 S1-
LCS 880-61711/1-A	Lab Control Sample	133 S1+	118
LCSD 880-61711/2-A	Lab Control Sample Dup	137 S1+	112
MB 880-61711/5-A	Method Blank	75	79

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)
890-5177-1	FS09	100	110
890-5177-1 MS	FS09	98	98
890-5177-1 MSD	FS09	114	112
890-5177-2	FS10	96	106
890-5177-3	FS11	113	124
890-5177-4	FS12	96	106
890-5177-5	FS15	114	121
890-5177-6	FS18	112	118
890-5177-7	FS13	113	122
890-5177-8	FS14	114	124
890-5177-9	FS16	114	124
890-5177-10	FS17	112	122
890-5177-11	SW04	111	120
890-5177-12	SW05	114	123
890-5177-13	SW03	112	121
890-5177-14	SW06	96	104

Surrogate Summary

Client: Ensolum Job ID: 890-5177-1
Project/Site: James Ranch Unit Booster SDG: 03C1558161

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
890-5177-15	SW07	111	120								
890-5177-16	FS19	107	114								
890-5177-17	FS20	109	116								
890-5177-18	FS21	100	109								
LCS 880-61644/2-A	Lab Control Sample	77	91								
LCSD 880-61644/3-A	Lab Control Sample Dup	77	91								
MB 880-61644/1-A	Method Blank	139 S1+	157 S1+								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61711/5-A
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61711

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 11:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 11:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 11:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/23 09:05	09/01/23 11:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/23 09:05	09/01/23 11:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/23 09:05	09/01/23 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*09/01/23 09:05*	*09/01/23 11:29*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*09/01/23 09:05*	*09/01/23 11:29*	*1*

Lab Sample ID: LCS 880-61711/1-A
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61711

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09874		mg/Kg		99	70 - 130		
Toluene			0.100	0.1122		mg/Kg		112	70 - 130		
Ethylbenzene			0.100	0.1163		mg/Kg		116	70 - 130		
m-Xylene & p-Xylene			0.200	0.2616	*+	mg/Kg		131	70 - 130		
o-Xylene			0.100	0.1268		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: LCSD 880-61711/2-A
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61711

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09906		mg/Kg		99	70 - 130	0	35
Toluene			0.100	0.1184		mg/Kg		118	70 - 130	5	35
Ethylbenzene			0.100	0.1238		mg/Kg		124	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2789	*+	mg/Kg		139	70 - 130	6	35
o-Xylene			0.100	0.1355	*+	mg/Kg		135	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-5177-1 MS
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 61711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.0996	0.08969		mg/Kg		89	70 - 130		
Toluene	<0.00198	U	0.0996	0.1086		mg/Kg		109	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

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

Lab Sample ID: 890-5177-1 MS
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 61711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.0996	0.1124		mg/Kg		113	70 - 130
m-Xylene & p-Xylene	<0.00396	U *+	0.199	0.2501		mg/Kg		126	70 - 130
o-Xylene	<0.00198	U *+	0.0996	0.1198		mg/Kg		120	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*

Lab Sample ID: 890-5177-1 MSD
Matrix: Solid
Analysis Batch: 61708

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 61711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.100	0.08921		mg/Kg		88	70 - 130	1	35
Toluene	<0.00198	U	0.100	0.1049		mg/Kg		105	70 - 130	3	35
Ethylbenzene	<0.00198	U	0.100	0.1096		mg/Kg		109	70 - 130	3	35
m-Xylene & p-Xylene	<0.00396	U *+	0.200	0.2475		mg/Kg		124	70 - 130	1	35
o-Xylene	<0.00198	U *+	0.100	0.1191		mg/Kg		119	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

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

Lab Sample ID: MB 880-61644/1-A
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61644

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/31/23 12:17	09/01/23 07:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/31/23 12:17	09/01/23 07:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/31/23 12:17	09/01/23 07:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*139*	*S1+*	*70 - 130*	*08/31/23 12:17*	*09/01/23 07:51*	*1*
o-Terphenyl	*157*	*S1+*	*70 - 130*	*08/31/23 12:17*	*09/01/23 07:51*	*1*

Lab Sample ID: LCS 880-61644/2-A
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61644

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	818.4		mg/Kg		82	70 - 130
Diesel Range Organics (Over C10-C28)	1000	812.8		mg/Kg		81	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

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

Lab Sample ID: LCS 880-61644/2-A
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61644

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: LCSD 880-61644/3-A
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61644

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	835.7		mg/Kg		84	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	814.7		mg/Kg		81	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-5177-1 MS
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 61644

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.1	U F2	991	832.9		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	<50.1	U	991	958.1		mg/Kg		93	70 - 130

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

Lab Sample ID: 890-5177-1 MSD
Matrix: Solid
Analysis Batch: 61704

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 61644

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	<50.1	U F2	991	1042	F2	mg/Kg		101	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	<50.1	U	991	1114		mg/Kg		109	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	112		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61635/1-A
Matrix: Solid
Analysis Batch: 61688

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			09/01/23 15:52	1

Lab Sample ID: LCS 880-61635/2-A
Matrix: Solid
Analysis Batch: 61688

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.3		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-61635/3-A
Matrix: Solid
Analysis Batch: 61688

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	247.3		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-5177-1 MS
Matrix: Solid
Analysis Batch: 61688

Client Sample ID: FS09
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	915		250	1160		mg/Kg		98	90 - 110		

Lab Sample ID: 890-5177-1 MSD
Matrix: Solid
Analysis Batch: 61688

Client Sample ID: FS09
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	915		250	1154		mg/Kg		96	90 - 110	1	20

Lab Sample ID: 890-5177-11 MS
Matrix: Solid
Analysis Batch: 61688

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	265		248	517.4		mg/Kg		102	90 - 110		

Lab Sample ID: 890-5177-11 MSD
Matrix: Solid
Analysis Batch: 61688

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	265		248	515.3		mg/Kg		101	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

GC VOA

Analysis Batch: 61708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	8021B	61711
890-5177-2	FS10	Total/NA	Solid	8021B	61711
890-5177-3	FS11	Total/NA	Solid	8021B	61711
890-5177-4	FS12	Total/NA	Solid	8021B	61711
890-5177-5	FS15	Total/NA	Solid	8021B	61711
890-5177-6	FS18	Total/NA	Solid	8021B	61711
890-5177-7	FS13	Total/NA	Solid	8021B	61711
890-5177-8	FS14	Total/NA	Solid	8021B	61711
890-5177-9	FS16	Total/NA	Solid	8021B	61711
890-5177-10	FS17	Total/NA	Solid	8021B	61711
890-5177-11	SW04	Total/NA	Solid	8021B	61711
890-5177-12	SW05	Total/NA	Solid	8021B	61711
890-5177-13	SW03	Total/NA	Solid	8021B	61711
890-5177-14	SW06	Total/NA	Solid	8021B	61711
890-5177-15	SW07	Total/NA	Solid	8021B	61711
890-5177-16	FS19	Total/NA	Solid	8021B	61711
890-5177-17	FS20	Total/NA	Solid	8021B	61711
890-5177-18	FS21	Total/NA	Solid	8021B	61711
MB 880-61711/5-A	Method Blank	Total/NA	Solid	8021B	61711
LCS 880-61711/1-A	Lab Control Sample	Total/NA	Solid	8021B	61711
LCSD 880-61711/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61711
890-5177-1 MS	FS09	Total/NA	Solid	8021B	61711
890-5177-1 MSD	FS09	Total/NA	Solid	8021B	61711

Prep Batch: 61711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	5035	
890-5177-2	FS10	Total/NA	Solid	5035	
890-5177-3	FS11	Total/NA	Solid	5035	
890-5177-4	FS12	Total/NA	Solid	5035	
890-5177-5	FS15	Total/NA	Solid	5035	
890-5177-6	FS18	Total/NA	Solid	5035	
890-5177-7	FS13	Total/NA	Solid	5035	
890-5177-8	FS14	Total/NA	Solid	5035	
890-5177-9	FS16	Total/NA	Solid	5035	
890-5177-10	FS17	Total/NA	Solid	5035	
890-5177-11	SW04	Total/NA	Solid	5035	
890-5177-12	SW05	Total/NA	Solid	5035	
890-5177-13	SW03	Total/NA	Solid	5035	
890-5177-14	SW06	Total/NA	Solid	5035	
890-5177-15	SW07	Total/NA	Solid	5035	
890-5177-16	FS19	Total/NA	Solid	5035	
890-5177-17	FS20	Total/NA	Solid	5035	
890-5177-18	FS21	Total/NA	Solid	5035	
MB 880-61711/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61711/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61711/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5177-1 MS	FS09	Total/NA	Solid	5035	
890-5177-1 MSD	FS09	Total/NA	Solid	5035	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

GC VOA

Analysis Batch: 61856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	Total BTEX	
890-5177-2	FS10	Total/NA	Solid	Total BTEX	
890-5177-3	FS11	Total/NA	Solid	Total BTEX	
890-5177-4	FS12	Total/NA	Solid	Total BTEX	
890-5177-5	FS15	Total/NA	Solid	Total BTEX	
890-5177-6	FS18	Total/NA	Solid	Total BTEX	
890-5177-7	FS13	Total/NA	Solid	Total BTEX	
890-5177-8	FS14	Total/NA	Solid	Total BTEX	
890-5177-9	FS16	Total/NA	Solid	Total BTEX	
890-5177-10	FS17	Total/NA	Solid	Total BTEX	
890-5177-11	SW04	Total/NA	Solid	Total BTEX	
890-5177-12	SW05	Total/NA	Solid	Total BTEX	
890-5177-13	SW03	Total/NA	Solid	Total BTEX	
890-5177-14	SW06	Total/NA	Solid	Total BTEX	
890-5177-15	SW07	Total/NA	Solid	Total BTEX	
890-5177-16	FS19	Total/NA	Solid	Total BTEX	
890-5177-17	FS20	Total/NA	Solid	Total BTEX	
890-5177-18	FS21	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	8015NM Prep	
890-5177-2	FS10	Total/NA	Solid	8015NM Prep	
890-5177-3	FS11	Total/NA	Solid	8015NM Prep	
890-5177-4	FS12	Total/NA	Solid	8015NM Prep	
890-5177-5	FS15	Total/NA	Solid	8015NM Prep	
890-5177-6	FS18	Total/NA	Solid	8015NM Prep	
890-5177-7	FS13	Total/NA	Solid	8015NM Prep	
890-5177-8	FS14	Total/NA	Solid	8015NM Prep	
890-5177-9	FS16	Total/NA	Solid	8015NM Prep	
890-5177-10	FS17	Total/NA	Solid	8015NM Prep	
890-5177-11	SW04	Total/NA	Solid	8015NM Prep	
890-5177-12	SW05	Total/NA	Solid	8015NM Prep	
890-5177-13	SW03	Total/NA	Solid	8015NM Prep	
890-5177-14	SW06	Total/NA	Solid	8015NM Prep	
890-5177-15	SW07	Total/NA	Solid	8015NM Prep	
890-5177-16	FS19	Total/NA	Solid	8015NM Prep	
890-5177-17	FS20	Total/NA	Solid	8015NM Prep	
890-5177-18	FS21	Total/NA	Solid	8015NM Prep	
MB 880-61644/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61644/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61644/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5177-1 MS	FS09	Total/NA	Solid	8015NM Prep	
890-5177-1 MSD	FS09	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	8015B NM	61644
890-5177-2	FS10	Total/NA	Solid	8015B NM	61644

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

GC Semi VOA (Continued)

Analysis Batch: 61704 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-3	FS11	Total/NA	Solid	8015B NM	61644
890-5177-4	FS12	Total/NA	Solid	8015B NM	61644
890-5177-5	FS15	Total/NA	Solid	8015B NM	61644
890-5177-6	FS18	Total/NA	Solid	8015B NM	61644
890-5177-7	FS13	Total/NA	Solid	8015B NM	61644
890-5177-8	FS14	Total/NA	Solid	8015B NM	61644
890-5177-9	FS16	Total/NA	Solid	8015B NM	61644
890-5177-10	FS17	Total/NA	Solid	8015B NM	61644
890-5177-11	SW04	Total/NA	Solid	8015B NM	61644
890-5177-12	SW05	Total/NA	Solid	8015B NM	61644
890-5177-13	SW03	Total/NA	Solid	8015B NM	61644
890-5177-14	SW06	Total/NA	Solid	8015B NM	61644
890-5177-15	SW07	Total/NA	Solid	8015B NM	61644
890-5177-16	FS19	Total/NA	Solid	8015B NM	61644
890-5177-17	FS20	Total/NA	Solid	8015B NM	61644
890-5177-18	FS21	Total/NA	Solid	8015B NM	61644
MB 880-61644/1-A	Method Blank	Total/NA	Solid	8015B NM	61644
LCS 880-61644/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61644
LCSD 880-61644/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61644
890-5177-1 MS	FS09	Total/NA	Solid	8015B NM	61644
890-5177-1 MSD	FS09	Total/NA	Solid	8015B NM	61644

Analysis Batch: 61819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Total/NA	Solid	8015 NM	
890-5177-2	FS10	Total/NA	Solid	8015 NM	
890-5177-3	FS11	Total/NA	Solid	8015 NM	
890-5177-4	FS12	Total/NA	Solid	8015 NM	
890-5177-5	FS15	Total/NA	Solid	8015 NM	
890-5177-6	FS18	Total/NA	Solid	8015 NM	
890-5177-7	FS13	Total/NA	Solid	8015 NM	
890-5177-8	FS14	Total/NA	Solid	8015 NM	
890-5177-9	FS16	Total/NA	Solid	8015 NM	
890-5177-10	FS17	Total/NA	Solid	8015 NM	
890-5177-11	SW04	Total/NA	Solid	8015 NM	
890-5177-12	SW05	Total/NA	Solid	8015 NM	
890-5177-13	SW03	Total/NA	Solid	8015 NM	
890-5177-14	SW06	Total/NA	Solid	8015 NM	
890-5177-15	SW07	Total/NA	Solid	8015 NM	
890-5177-16	FS19	Total/NA	Solid	8015 NM	
890-5177-17	FS20	Total/NA	Solid	8015 NM	
890-5177-18	FS21	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Soluble	Solid	DI Leach	
890-5177-2	FS10	Soluble	Solid	DI Leach	
890-5177-3	FS11	Soluble	Solid	DI Leach	
890-5177-4	FS12	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

HPLC/IC (Continued)

Leach Batch: 61635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-5	FS15	Soluble	Solid	DI Leach	
890-5177-6	FS18	Soluble	Solid	DI Leach	
890-5177-7	FS13	Soluble	Solid	DI Leach	
890-5177-8	FS14	Soluble	Solid	DI Leach	
890-5177-9	FS16	Soluble	Solid	DI Leach	
890-5177-10	FS17	Soluble	Solid	DI Leach	
890-5177-11	SW04	Soluble	Solid	DI Leach	
890-5177-12	SW05	Soluble	Solid	DI Leach	
890-5177-13	SW03	Soluble	Solid	DI Leach	
890-5177-14	SW06	Soluble	Solid	DI Leach	
890-5177-15	SW07	Soluble	Solid	DI Leach	
890-5177-16	FS19	Soluble	Solid	DI Leach	
890-5177-17	FS20	Soluble	Solid	DI Leach	
890-5177-18	FS21	Soluble	Solid	DI Leach	
MB 880-61635/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61635/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61635/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5177-1 MS	FS09	Soluble	Solid	DI Leach	
890-5177-1 MSD	FS09	Soluble	Solid	DI Leach	
890-5177-11 MS	SW04	Soluble	Solid	DI Leach	
890-5177-11 MSD	SW04	Soluble	Solid	DI Leach	

Analysis Batch: 61688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5177-1	FS09	Soluble	Solid	300.0	61635
890-5177-2	FS10	Soluble	Solid	300.0	61635
890-5177-3	FS11	Soluble	Solid	300.0	61635
890-5177-4	FS12	Soluble	Solid	300.0	61635
890-5177-5	FS15	Soluble	Solid	300.0	61635
890-5177-6	FS18	Soluble	Solid	300.0	61635
890-5177-7	FS13	Soluble	Solid	300.0	61635
890-5177-8	FS14	Soluble	Solid	300.0	61635
890-5177-9	FS16	Soluble	Solid	300.0	61635
890-5177-10	FS17	Soluble	Solid	300.0	61635
890-5177-11	SW04	Soluble	Solid	300.0	61635
890-5177-12	SW05	Soluble	Solid	300.0	61635
890-5177-13	SW03	Soluble	Solid	300.0	61635
890-5177-14	SW06	Soluble	Solid	300.0	61635
890-5177-15	SW07	Soluble	Solid	300.0	61635
890-5177-16	FS19	Soluble	Solid	300.0	61635
890-5177-17	FS20	Soluble	Solid	300.0	61635
890-5177-18	FS21	Soluble	Solid	300.0	61635
MB 880-61635/1-A	Method Blank	Soluble	Solid	300.0	61635
LCS 880-61635/2-A	Lab Control Sample	Soluble	Solid	300.0	61635
LCSD 880-61635/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61635
890-5177-1 MS	FS09	Soluble	Solid	300.0	61635
890-5177-1 MSD	FS09	Soluble	Solid	300.0	61635
890-5177-11 MS	SW04	Soluble	Solid	300.0	61635
890-5177-11 MSD	SW04	Soluble	Solid	300.0	61635

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS09
Date Collected: 08/29/23 09:50
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-1
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 11:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 10:25	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 16:12	CH	EET MID

Client Sample ID: FS10
Date Collected: 08/29/23 09:55
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-2
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			4.96 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 12:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 11:30	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 16:32	CH	EET MID

Client Sample ID: FS11
Date Collected: 08/29/23 10:00
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 12:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 11:51	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 16:39	CH	EET MID

Client Sample ID: FS12
Date Collected: 08/29/23 10:30
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 12:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS12

Lab Sample ID: 890-5177-4
Matrix: Solid
Date Collected: 08/29/23 10:30
Date Received: 08/29/23 15:00

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			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 12:13	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 16:46	CH	EET MID

Client Sample ID: FS15

Lab Sample ID: 890-5177-5
Matrix: Solid
Date Collected: 08/29/23 10:35
Date Received: 08/29/23 15:00

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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 13:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 12:34	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 16:53	CH	EET MID

Client Sample ID: FS18

Lab Sample ID: 890-5177-6
Matrix: Solid
Date Collected: 08/29/23 10:40
Date Received: 08/29/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 13:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 12:56	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 17:13	CH	EET MID

Client Sample ID: FS13

Lab Sample ID: 890-5177-7
Matrix: Solid
Date Collected: 08/29/23 10:45
Date Received: 08/29/23 15:00

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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 13:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 13:17	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS13
Date Collected: 08/29/23 10:45
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 17:19	CH	EET MID

Client Sample ID: FS14
Date Collected: 08/29/23 10:50
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-8
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 14:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 13:39	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		5			61688	09/01/23 17:26	CH	EET MID

Client Sample ID: FS16
Date Collected: 08/29/23 10:55
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-9
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 14:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 14:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 17:33	CH	EET MID

Client Sample ID: FS17
Date Collected: 08/29/23 11:00
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-10
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 14:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 14:22	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 17:39	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW04
Date Collected: 08/29/23 11:10
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-11
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			4.95 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 16:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 15:05	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 17:46	CH	EET MID

Client Sample ID: SW05
Date Collected: 08/29/23 11:15
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-12
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 17:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 15:26	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:06	CH	EET MID

Client Sample ID: SW03
Date Collected: 08/29/23 11:20
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-13
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			4.99 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 17:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 15:48	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:13	CH	EET MID

Client Sample ID: SW06
Date Collected: 08/29/23 11:30
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-14
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			5.00 g	5 mL	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 17:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: SW06

Date Collected: 08/29/23 11:30
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-14
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			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 16:10	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:33	CH	EET MID

Client Sample ID: SW07

Date Collected: 08/29/23 11:35
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-15
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 18:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 16:31	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:39	CH	EET MID

Client Sample ID: FS19

Date Collected: 08/29/23 12:30
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-16
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 18:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 16:53	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:46	CH	EET MID

Client Sample ID: FS20

Date Collected: 08/29/23 13:00
Date Received: 08/29/23 15:00

Lab Sample ID: 890-5177-17
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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 18:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 17:14	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Client Sample ID: FS20

Lab Sample ID: 890-5177-17

Date Collected: 08/29/23 13:00
Matrix: Solid
Date Received: 08/29/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 18:53	CH	EET MID

Client Sample ID: FS21

Lab Sample ID: 890-5177-18

Date Collected: 08/29/23 13:05
Matrix: Solid
Date Received: 08/29/23 15:00

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	61711	09/01/23 09:05	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61708	09/01/23 19:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			61856	09/05/23 17:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			61819	09/05/23 12:35	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61644	08/31/23 12:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61704	09/01/23 17:36	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61635	08/31/23 11:05	SMC	EET MID
Soluble	Analysis	300.0		1			61688	09/01/23 19:00	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

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	T104704400-23-26	06-30-24

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: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5177-1
SDG: 03C1558161

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5177-1	FS09	Solid	08/29/23 09:50	08/29/23 15:00	4
890-5177-2	FS10	Solid	08/29/23 09:55	08/29/23 15:00	4
890-5177-3	FS11	Solid	08/29/23 10:00	08/29/23 15:00	4
890-5177-4	FS12	Solid	08/29/23 10:30	08/29/23 15:00	4
890-5177-5	FS15	Solid	08/29/23 10:35	08/29/23 15:00	4
890-5177-6	FS18	Solid	08/29/23 10:40	08/29/23 15:00	4
890-5177-7	FS13	Solid	08/29/23 10:45	08/29/23 15:00	4
890-5177-8	FS14	Solid	08/29/23 10:50	08/29/23 15:00	4
890-5177-9	FS16	Solid	08/29/23 10:55	08/29/23 15:00	4
890-5177-10	FS17	Solid	08/29/23 11:00	08/29/23 15:00	4
890-5177-11	SW04	Solid	08/29/23 11:10	08/29/23 15:00	0-4
890-5177-12	SW05	Solid	08/29/23 11:15	08/29/23 15:00	0-4
890-5177-13	SW03	Solid	08/29/23 11:20	08/29/23 15:00	0-4
890-5177-14	SW06	Solid	08/29/23 11:30	08/29/23 15:00	0-4
890-5177-15	SW07	Solid	08/29/23 11:35	08/29/23 15:00	0-4
890-5177-16	FS19	Solid	08/29/23 12:30	08/29/23 15:00	3
890-5177-17	FS20	Solid	08/29/23 13:00	08/29/23 15:00	4
890-5177-18	FS21	Solid	08/29/23 13:05	08/29/23 15:00	4

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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
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852 Email:		Garrett.Green@ExxonMobil.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:	James Ranch Unit Booster	Turn Around	
Project Number:	03C1558102	☒ Routine ☐ Rush	
Project Location:	32.45072, -103.92541	Due Date:	5 days
Sampler's Name:	Mariana O'Dell	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:	TNM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.4
Total Containers:		Corrected Temperature:	5.2

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
NaHSO$_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

890-5177 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX	Sample Comments
FS09	S	8/29/23	9:50	4'	C	1		X	X	X	Incident #:
FS10			9:55	4'							NAPP2319954205
FS11			10:00	4'							Cost Center:
FS12			10:30	4'							1508271001, 1508311001
FS15			10:35	4'							1508271001
FS18			10:40	4'							API: 30-015-46194,
FS13			10:45	4'							30-015-46195,
FS14			10:50	4'							30-015-46933
FS16			10:55	4'							Ben Belill:
FS17			11:00	4'							bbelill@ensolum.com

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		8-29-23 15:00	2		
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 2 of 2

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852 Email:		Garrett.Green@ExxonMobil.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:	James Ranch Unit Booster	Turn Around	
Project Number:	03C1558161	☒ Routine ☐ Rush	
Project Location:	32.45072, -103.92542	Due Date:	5 days
Sampler's Name:	Mariana O'Dell	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:	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	
Total Containers:		Corrected Temperature:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX	Sample Comments
SW04	S	8/29/23	11:10	0-4'	C	1		X	X	X	Incident #:
SW05			11:15	0-4'	C	1					NAPP2319954205
SW03			11:20	0-4'	C	1					Cost Center:
SW06			11:30	0-4'	C	1					151082 71001, 151083 11001,
SW07			11:35	0-4'	C	1					151082 71001
FS19			12:30	3'	C	1					API: 30-015-46194,
FS20			13:00	4'	C	1					30-015-46195,
FS21			13:05	4'	C	1					30-015-46933
											Ben Belill:
										MD	bbelill@ensolum.com

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

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		8-29-23 15:00	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5177-1
SDG Number: 03C1558161

Login Number: 5177
List Number: 1
Creator: Lopez, Abraham

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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5177-1
SDG Number: 03C1558161

Login Number: 5177
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/31/23 10:49 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

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 8/30/2023 9:53:45 AM

JOB DESCRIPTION

James Ranch Unit Booster
SDG NUMBER 03C1558161

JOB NUMBER

890-5154-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

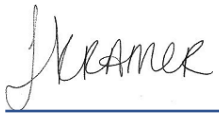
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



Generated
8/30/2023 9:53:45 AM

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

Client: Ensolum
Project/Site: James Ranch Unit Booster

Laboratory Job ID: 890-5154-1
SDG: 03C1558161

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.

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: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Job ID: 890-5154-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5154-1

Receipt
The samples were received on 8/24/2023 3:22 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

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-5154-1), BH02 (890-5154-2) and BH03 (890-5154-3).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-61493/1-A) and (LCSD 880-61493/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-5154-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH01 (890-5154-1) and BH03 (890-5154-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-61425 recovered above the upper control limit for m-Xylene & p-Xylene and o-Xylene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 880-61425/20).

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-61493 and analytical batch 880-61425 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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 880-61196 and analytical batch 880-61237 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (CCV 880-61237/5). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-61237 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-61237/20).

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: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Client Sample ID: BH01

Lab Sample ID: 890-5154-1
Matrix: Solid
Date Collected: 08/24/23 11:05
Date Received: 08/24/23 15:22
Sample Depth: 3

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		08/29/23 16:37	08/29/23 22:20	1
Toluene	<0.00198	U	0.00198		mg/Kg		08/29/23 16:37	08/29/23 22:20	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		08/29/23 16:37	08/29/23 22:20	1
m-Xylene & p-Xylene	<0.00397	U *+	0.00397		mg/Kg		08/29/23 16:37	08/29/23 22:20	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		08/29/23 16:37	08/29/23 22:20	1
Xylenes, Total	<0.00397	U *+	0.00397		mg/Kg		08/29/23 16:37	08/29/23 22:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*08/29/23 16:37*	*08/29/23 22:20*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*08/29/23 16:37*	*08/29/23 22:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			08/30/23 09:53	1

Method: SW846 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			08/28/23 23:37	1

Method: SW846 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		08/28/23 10:53	08/28/23 18:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/28/23 10:53	08/28/23 18:48	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/28/23 10:53	08/28/23 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*08/28/23 10:53*	*08/28/23 18:48*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/28/23 10:53*	*08/28/23 18:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**474**		5.04		mg/Kg			08/29/23 23:46	1

Client Sample ID: BH02

Lab Sample ID: 890-5154-2
Matrix: Solid
Date Collected: 08/24/23 12:03
Date Received: 08/24/23 15:22
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/29/23 16:37	08/29/23 22:40	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/29/23 16:37	08/29/23 22:40	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/29/23 16:37	08/29/23 22:40	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		08/29/23 16:37	08/29/23 22:40	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		08/29/23 16:37	08/29/23 22:40	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		08/29/23 16:37	08/29/23 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*08/29/23 16:37*	*08/29/23 22:40*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Client Sample ID: BH02

Lab Sample ID: 890-5154-2
Matrix: Solid
Date Collected: 08/24/23 12:03
Date Received: 08/24/23 15:22
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*08/29/23 16:37*	*08/29/23 22:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			08/30/23 09:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2	mg/Kg			08/28/23 23:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.2	U	50.2	mg/Kg		08/28/23 10:53	08/28/23 19:10	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2	mg/Kg		08/28/23 10:53	08/28/23 19:10	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2	mg/Kg		08/28/23 10:53	08/28/23 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:10*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**396**		5.03	mg/Kg			08/30/23 00:06	1

Client Sample ID: BH03

Lab Sample ID: 890-5154-3
Matrix: Solid
Date Collected: 08/24/23 13:15
Date Received: 08/24/23 15:22
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		08/29/23 16:37	08/29/23 23:01	1
Toluene	<0.00201	U	0.00201	mg/Kg		08/29/23 16:37	08/29/23 23:01	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		08/29/23 16:37	08/29/23 23:01	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402	mg/Kg		08/29/23 16:37	08/29/23 23:01	1
o-Xylene	<0.00201	U *+	0.00201	mg/Kg		08/29/23 16:37	08/29/23 23:01	1
Xylenes, Total	<0.00402	U *+	0.00402	mg/Kg		08/29/23 16:37	08/29/23 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*08/29/23 16:37*	*08/29/23 23:01*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*08/29/23 16:37*	*08/29/23 23:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			08/30/23 09:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			08/28/23 23:37	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Client Sample ID: BH03
Date Collected: 08/24/23 13:15
Date Received: 08/24/23 15:22
Sample Depth: 1

Lab Sample ID: 890-5154-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.4	U	50.4		mg/Kg		08/28/23 10:53	08/28/23 19:32	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4		mg/Kg		08/28/23 10:53	08/28/23 19:32	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		08/28/23 10:53	08/28/23 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:32*	*1*
o-Terphenyl	*93*		*70 - 130*	*08/28/23 10:53*	*08/28/23 19:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**99.0**		4.98		mg/Kg			08/30/23 00:13	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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)
890-5154-1	BH01	102	65 S1-
890-5154-1 MS	BH01	128	118
890-5154-1 MSD	BH01	136 S1+	115
890-5154-2	BH02	75	76
890-5154-3	BH03	87	69 S1-
LCS 880-61493/1-A	Lab Control Sample	133 S1+	121
LCSD 880-61493/2-A	Lab Control Sample Dup	133 S1+	117
MB 880-61445/5-A	Method Blank	78	80
MB 880-61493/5-A	Method Blank	79	77

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)
880-32575-A-5-D MS	Matrix Spike	123	89
880-32575-A-5-E MSD	Matrix Spike Duplicate	124	92
890-5154-1	BH01	126	97
890-5154-2	BH02	127	99
890-5154-3	BH03	123	93
LCS 880-61196/2-A	Lab Control Sample	111	102
LCSD 880-61196/3-A	Lab Control Sample Dup	124	116
MB 880-61196/1-A	Method Blank	136 S1+	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-61445/5-A
Matrix: Solid
Analysis Batch: 61425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61445

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/23 10:54	08/29/23 11:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/23 10:54	08/29/23 11:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/23 10:54	08/29/23 11:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/23 10:54	08/29/23 11:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/23 10:54	08/29/23 11:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/23 10:54	08/29/23 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*08/29/23 10:54*	*08/29/23 11:23*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*08/29/23 10:54*	*08/29/23 11:23*	*1*

Lab Sample ID: MB 880-61493/5-A
Matrix: Solid
Analysis Batch: 61425

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61493

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/29/23 16:37	08/29/23 21:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/29/23 16:37	08/29/23 21:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/29/23 16:37	08/29/23 21:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/29/23 16:37	08/29/23 21:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/29/23 16:37	08/29/23 21:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/29/23 16:37	08/29/23 21:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*08/29/23 16:37*	*08/29/23 21:58*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*08/29/23 16:37*	*08/29/23 21:58*	*1*

Lab Sample ID: LCS 880-61493/1-A
Matrix: Solid
Analysis Batch: 61425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61493

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09608		mg/Kg		96	70 - 130		
Toluene			0.100	0.1145		mg/Kg		114	70 - 130		
Ethylbenzene			0.100	0.1238		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2758	*+	mg/Kg		138	70 - 130		
o-Xylene			0.100	0.1378	*+	mg/Kg		138	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*

Lab Sample ID: LCSD 880-61493/2-A
Matrix: Solid
Analysis Batch: 61425

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61493

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09126		mg/Kg		91	70 - 130	5	35

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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

Lab Sample ID: LCSD 880-61493/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61425 — **Prep Batch: 61493**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1103		mg/Kg		110	70 - 130	4	35
Ethylbenzene			0.100	0.1161		mg/Kg		116	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2563		mg/Kg		128	70 - 130	7	35
o-Xylene			0.100	0.1284		mg/Kg		128	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*

Lab Sample ID: 890-5154-1 MS — **Client Sample ID: BH01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61425 — **Prep Batch: 61493**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.101	0.08062		mg/Kg		80	70 - 130
Toluene	<0.00198	U	0.101	0.09676		mg/Kg		96	70 - 130
Ethylbenzene	<0.00198	U	0.101	0.1018		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00397	U *+	0.202	0.2234		mg/Kg		111	70 - 130
o-Xylene	<0.00198	U *+	0.101	0.1114		mg/Kg		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: 890-5154-1 MSD — **Client Sample ID: BH01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61425 — **Prep Batch: 61493**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.101	0.08056		mg/Kg		80	70 - 130	0	35
Toluene	<0.00198	U	0.101	0.09903		mg/Kg		98	70 - 130	2	35
Ethylbenzene	<0.00198	U	0.101	0.1059		mg/Kg		105	70 - 130	4	35
m-Xylene & p-Xylene	<0.00397	U *+	0.202	0.2320		mg/Kg		115	70 - 130	4	35
o-Xylene	<0.00198	U *+	0.101	0.1157		mg/Kg		114	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*

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

Lab Sample ID: MB 880-61196/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61237 — **Prep Batch: 61196**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/26/23 11:04	08/28/23 09:01	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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

Lab Sample ID: MB 880-61196/1-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61196

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		08/26/23 11:04	08/28/23 09:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/26/23 11:04	08/28/23 09:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*08/26/23 11:04*	*08/28/23 09:01*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/26/23 11:04*	*08/28/23 09:01*	*1*

Lab Sample ID: LCS 880-61196/2-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61196

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	859.4		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	888.7		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-61196/3-A
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61196

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	936.7		mg/Kg		94	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	952.1		mg/Kg		95	70 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

Lab Sample ID: 880-32575-A-5-D MS
Matrix: Solid
Analysis Batch: 61237

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 61196

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	998.4		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1142		mg/Kg		111	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*123*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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

Lab Sample ID: 880-32575-A-5-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 61237 — **Prep Batch: 61196**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	987.1		mg/Kg		95	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1010	1182		mg/Kg		115	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-61432/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61491

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/29/23 22:47	1

Lab Sample ID: LCS 880-61432/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61491

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.9		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-61432/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61491

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	254.5		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 880-32651-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	147		251	400.9		mg/Kg		101	90 - 110		

Lab Sample ID: 880-32651-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 61491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	147		251	403.9		mg/Kg		102	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

GC VOA

Analysis Batch: 61425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	8021B	61493
890-5154-2	BH02	Total/NA	Solid	8021B	61493
890-5154-3	BH03	Total/NA	Solid	8021B	61493
MB 880-61445/5-A	Method Blank	Total/NA	Solid	8021B	61445
MB 880-61493/5-A	Method Blank	Total/NA	Solid	8021B	61493
LCS 880-61493/1-A	Lab Control Sample	Total/NA	Solid	8021B	61493
LCSD 880-61493/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	61493
890-5154-1 MS	BH01	Total/NA	Solid	8021B	61493
890-5154-1 MSD	BH01	Total/NA	Solid	8021B	61493

Prep Batch: 61445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-61445/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 61493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	5035	
890-5154-2	BH02	Total/NA	Solid	5035	
890-5154-3	BH03	Total/NA	Solid	5035	
MB 880-61493/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-61493/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-61493/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5154-1 MS	BH01	Total/NA	Solid	5035	
890-5154-1 MSD	BH01	Total/NA	Solid	5035	

Analysis Batch: 61524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	Total BTEX	
890-5154-2	BH02	Total/NA	Solid	Total BTEX	
890-5154-3	BH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 61196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	8015NM Prep	
890-5154-2	BH02	Total/NA	Solid	8015NM Prep	
890-5154-3	BH03	Total/NA	Solid	8015NM Prep	
MB 880-61196/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-61196/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-61196/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-32575-A-5-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-32575-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 61237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	8015B NM	61196
890-5154-2	BH02	Total/NA	Solid	8015B NM	61196
890-5154-3	BH03	Total/NA	Solid	8015B NM	61196
MB 880-61196/1-A	Method Blank	Total/NA	Solid	8015B NM	61196
LCS 880-61196/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	61196

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

GC Semi VOA (Continued)

Analysis Batch: 61237 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-61196/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	61196
880-32575-A-5-D MS	Matrix Spike	Total/NA	Solid	8015B NM	61196
880-32575-A-5-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	61196

Analysis Batch: 61413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Total/NA	Solid	8015 NM	
890-5154-2	BH02	Total/NA	Solid	8015 NM	
890-5154-3	BH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 61432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Soluble	Solid	DI Leach	
890-5154-2	BH02	Soluble	Solid	DI Leach	
890-5154-3	BH03	Soluble	Solid	DI Leach	
MB 880-61432/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-61432/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-61432/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-32651-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-32651-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 61491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5154-1	BH01	Soluble	Solid	300.0	61432
890-5154-2	BH02	Soluble	Solid	300.0	61432
890-5154-3	BH03	Soluble	Solid	300.0	61432
MB 880-61432/1-A	Method Blank	Soluble	Solid	300.0	61432
LCS 880-61432/2-A	Lab Control Sample	Soluble	Solid	300.0	61432
LCSD 880-61432/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	61432
880-32651-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	61432
880-32651-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	61432

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Client Sample ID: BH01

Lab Sample ID: 890-5154-1
Matrix: Solid
Date Collected: 08/24/23 11:05
Date Received: 08/24/23 15:22

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	61493	08/29/23 16:37	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61425	08/29/23 22:20	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61524	08/30/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61413	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 18:48	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/29/23 23:46	CH	EET MID

Client Sample ID: BH02

Lab Sample ID: 890-5154-2
Matrix: Solid
Date Collected: 08/24/23 12:03
Date Received: 08/24/23 15:22

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	61493	08/29/23 16:37	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61425	08/29/23 22:40	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61524	08/30/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61413	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			9.96 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 19:10	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:06	CH	EET MID

Client Sample ID: BH03

Lab Sample ID: 890-5154-3
Matrix: Solid
Date Collected: 08/24/23 13:15
Date Received: 08/24/23 15:22

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	61493	08/29/23 16:37	AJ	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	61425	08/29/23 23:01	SM	EET MID
Total/NA	Analysis	Total BTEX		1			61524	08/30/23 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			61413	08/28/23 23:37	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	61196	08/28/23 10:53	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	61237	08/28/23 19:32	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	61432	08/29/23 09:59	SMC	EET MID
Soluble	Analysis	300.0		1			61491	08/30/23 00:13	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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	T104704400-23-26	06-30-24

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: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: James Ranch Unit Booster

Job ID: 890-5154-1
SDG: 03C1558161

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5154-1	BH01	Solid	08/24/23 11:05	08/24/23 15:22	3
890-5154-2	BH02	Solid	08/24/23 12:03	08/24/23 15:22	4
890-5154-3	BH03	Solid	08/24/23 13:15	08/24/23 15:22	1

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	Garrett.Green@ExxonMobil.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:	James Ranch Unit Booster	Turn Around	☒ Routine ☐ Rush
Project Number:	03C1558101	Due Date:	5 days
Project Location:	32.45072, -103.92541	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Mariana O'Dell		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#7
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_2SO_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	TPH	BTEX	Sample Comments
BH01	S	8/24/23	11:05	3'	G	1	X	X	X	Incident #:
BH02	S	↓	12:30	4'	↓	↓	↓	↓	↓	NAPP2319954265
BH03	S	↓	13:15	1'	↓	↓	↓	↓	↓	Cost center:
										1560827001, 1560831001,
										1560835001
										API: 30-015-46194,
										30-015-46195,
										30-015-46933
										Ben Belill:
										bbelill@ensolum.com

890-5154 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		8.24.23 1522	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5154-1
SDG Number: 03C1558161

Login Number: 5154
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.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5154-1
SDG Number: 03C1558161

Login Number: 5154
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/28/23 09:44 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: Collins, Melanie
To: ocd.enviro@state.nm.us
Cc: spills@slo.state.nm.us; DelawareSpills /SM; Ben Belill; Green, Garrett J
Subject: XTO - Sampling Notification (Week of 8/21/23 - 8/25/23)
Date: Thursday, August 17, 2023 10:58:58 AM
Attachments: image001.png

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of August 21, 2023.

Monday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)

Tuesday
- Nash Deep East Battery / nAPP2317832586
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)

Wednesday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)
- Nash Deep East Battery / nAPP2317832586

Thursday
- James Ranch Unit Booster / NAPP2319954265
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)
- Nash Deep East Battery / nAPP2317832586

Friday
- James Ranch Unit Booster / NAPP2319954265
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

From: Collins, Melanie
To: ocd.enviro@state.nm.us
Cc: spills@slo.state.nm.us; Green, Garrett J; Ben Belill
Subject: XTO - Sampling Notification (Week of 8/28/23 - 9/1/23)
Date: Wednesday, August 23, 2023 5:06:30 PM
Attachments: image001.png

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of August 28, 2023.

Monday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)
- James Ranch Unit Booster / NAPP2319954265

Tuesday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)

Wednesday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)

Thursday
- JRU DI 11 Ekalaka 823H / nAPP2224527297 (SLO)
- Indian Flats Bass Fed 6 / NMAP1823048577

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 272033

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 272033
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation Closure approved. All areas not reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as practical. Areas reasonably needed for production or subsequent drilling operations will need to be reclaimed and revegetated as soon as they are no longer reasonably needed.	2/16/2024
amaxwell	When submitting a reclamation report, include an Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	2/16/2024