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	NAPP2322742848
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 32.35505 Longitude -103.84582
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit 21 Riser	Site Type Pipeline Riser
Date Release Discovered 08/10/2023	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
A	35	22S	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) 5.89	Volume Recovered (bbls) 1.00
	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: Internal corrosion in the body on an 8” carbon steel valve caused fluids to release to ground. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2322742848
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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

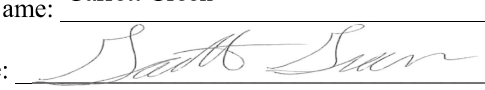
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ 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: 8/15/2023
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells
Date: 8/16/2023

Location:	**James Ranch Unit 21 Riser**	
Spill Date:	**8/10/2023**	
Area 1		
Approximate Area =	2930.00	sq. ft.
Average Saturation (or depth) of spill =	0.75	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	5.89	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**5.89**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**1.00**	**bbls**

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 252254

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 252254
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
scwells	None	8/16/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2322742848
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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2322742848
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: Enviornmental Coordinator

Signature:  Date: Nov 07 2023

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

OCD Only

Received by: Shelly Wells Date: 11/8/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2322742848
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Garrett Green Title: Environmental Coordinator

Signature: Date: Nov 07 2023

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

OCD Only

Received by: Shelly Wells Date: 11/8/2023

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

November 7, 2023

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

Re: Closure Request
James Ranch Unit 21 Riser
Incident Number NAPP2322742848
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 21 Riser (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 NAPP2322742848.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 35, Township 22 South, Range 30 East, in Eddy County, New Mexico (32.35505°, -103.84582°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On August 10, 2023, internal corrosion on a steel valve located on a produced water riser caused the release of 5.89 barrels (bbls) of produced water onto the ground surface of a right-of-way (ROW) and pasture area. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 1.0 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on August 15, 2023. The release was assigned Incident Number NAPP2322742848.

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 closest permitted groundwater well/soil boring with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) soil boring C-04731, located approximately 0.66 miles northwest of the Site. The soil boring was drilled during April 2023 to a total depth of 106 feet bgs, and no moisture or groundwater was encountered. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period

without observing groundwater, it was confirmed groundwater beneath the Site is greater than 106 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. 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 5,209 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (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 September 19, 2023, Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Eight delineation soil samples (SS01 through SS08) were collected at a depth of 0.5 feet bgs to assess the extent of the release. Soil samples SS01 through SS04 were collected within the release area and soil samples SS05 through SS08 were collected outside the release area to confirm the lateral extent. 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 SS04 indicated chloride and TPH concentrations exceeded the reclamation requirement. Based on laboratory analytical results for soil samples SS01 through SS04, additional delineation and excavation activities were warranted.

DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

From October 10 to October 13, 2023, Ensolum personnel returned to the Site to oversee delineation and excavation activities. Four boreholes (BH01 through BH04) 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 was 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 2.

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 a ROW and the adjacent 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 FS15 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 total excavated area measured approximately 2,520 square feet. A total of approximately 160 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 BH04 and all final confirmation soil samples collected from the final excavation extent were compliant with 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 August 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 reclamation requirement. This includes confirmation sidewall soil samples SW01 through SW07, which confirms the lateral definition of the release extent area. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour

the Site to match pre-existing Site conditions. 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. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2322742848.

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

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Project Geologist

Ashley L Ager, MS, PG
Principal

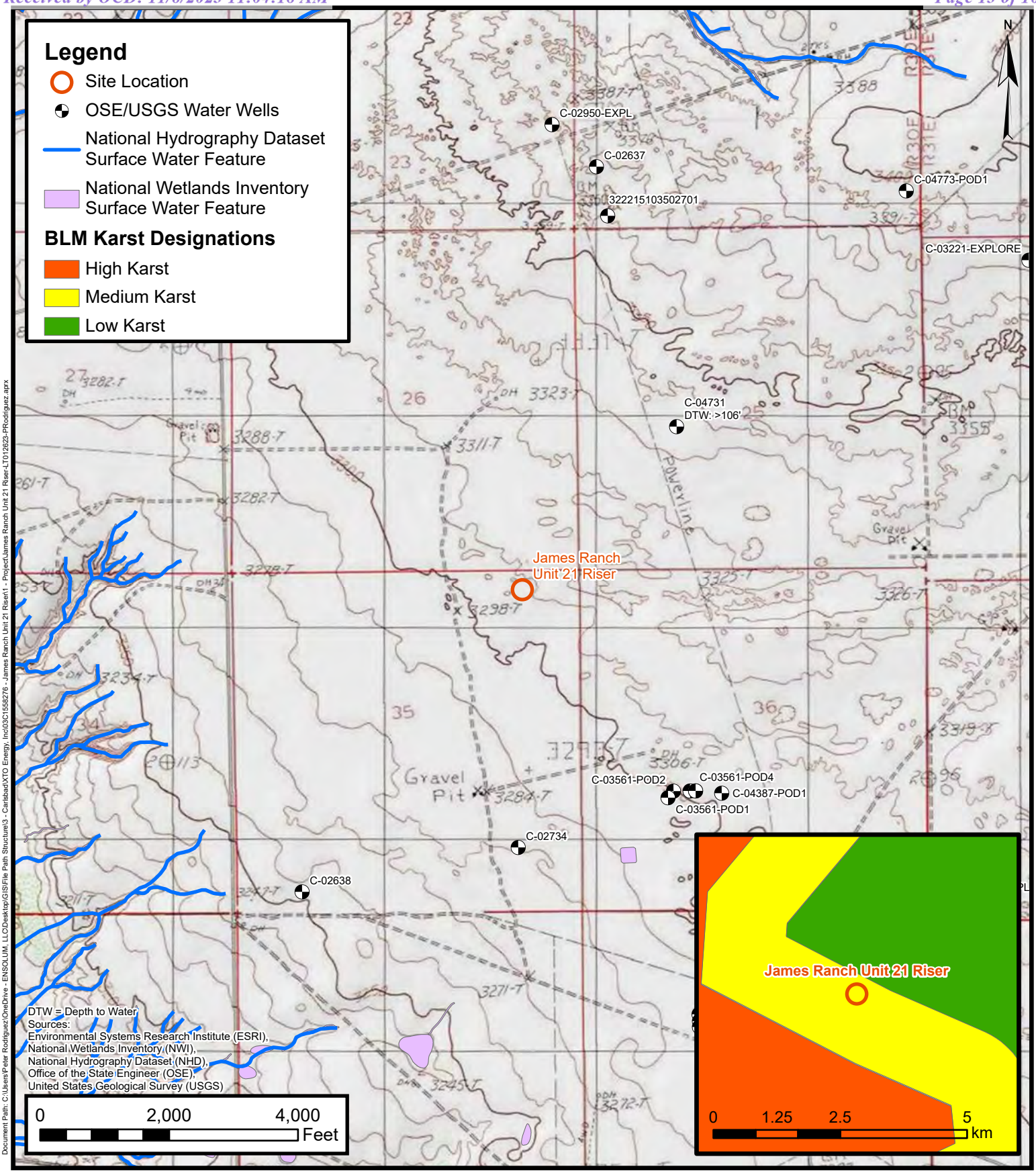
cc: Garrett Green, XTO
Tommee Lambert, XTO
BLM

Appendices:

Figure 1	Site Receptor 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

ENSOLUM

FIGURES



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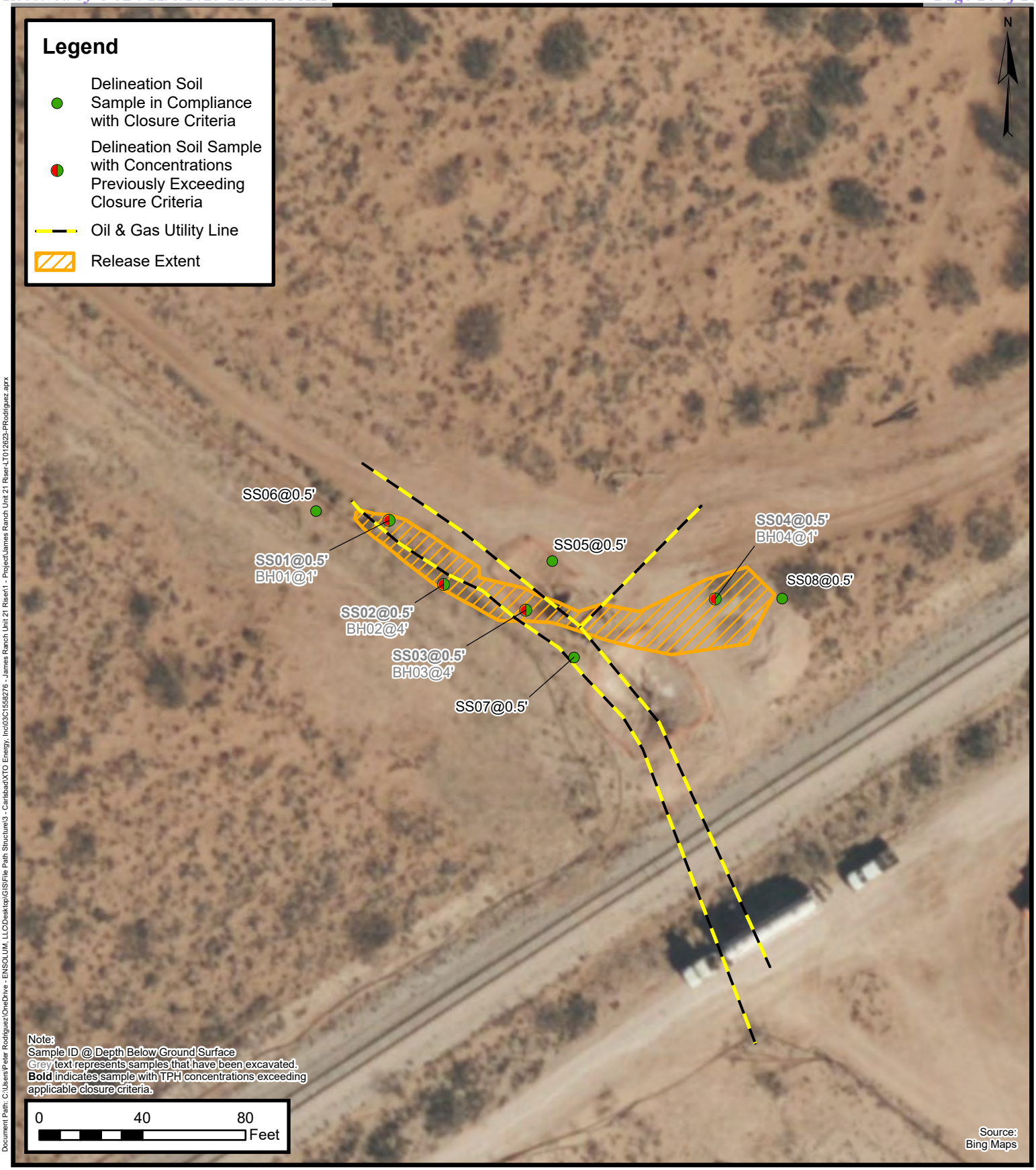
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
James Ranch Unit 21 Riser
Incident Number: NAPP2322742848
Unit A, Sec 35, T22S R30E
Eddy County,New Mexico

FIGURE
1



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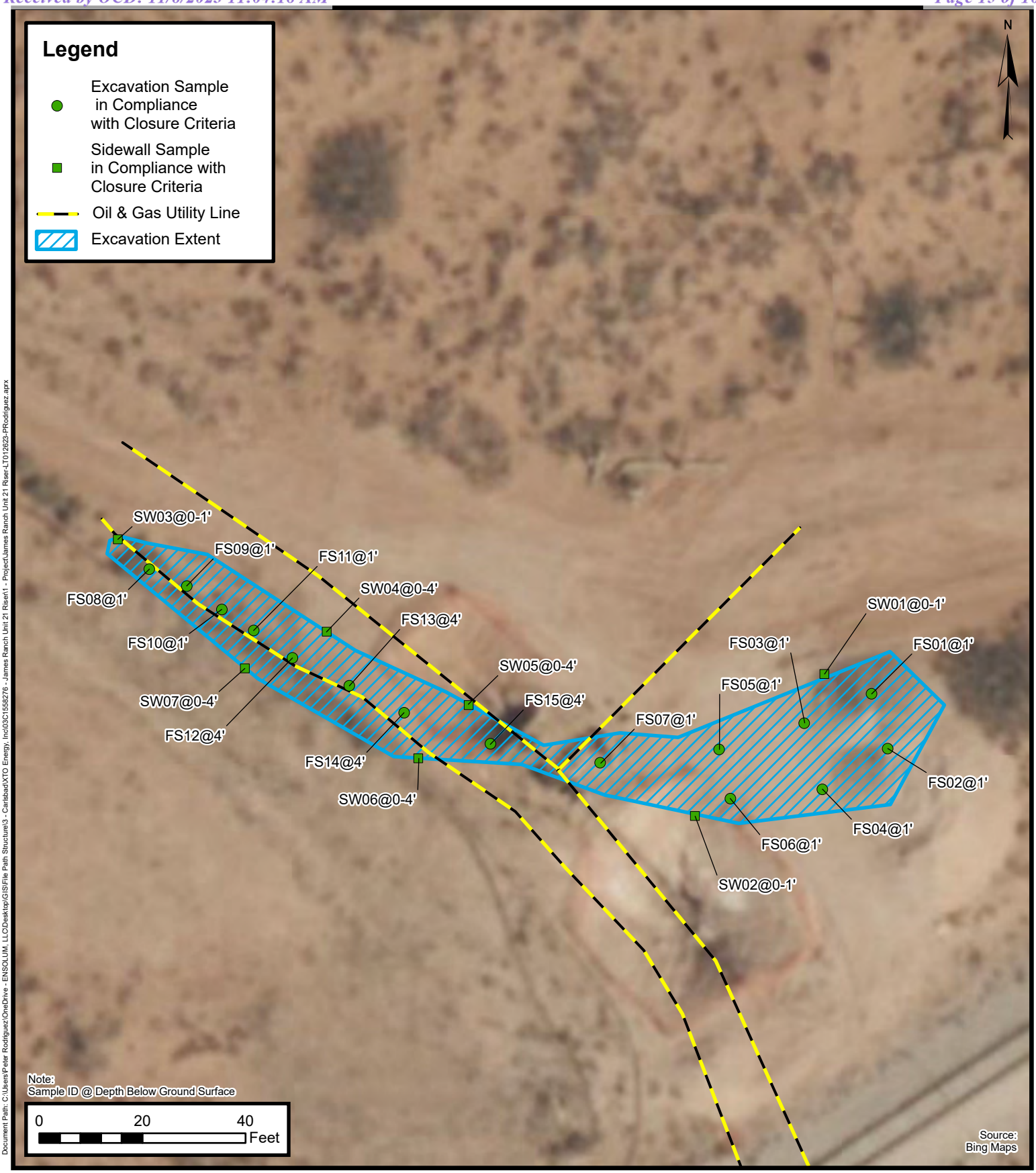
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit 21 Riser
Incident Number: NAPP2322742848
Unit A, Section 35, T22S, R30E
Eddy County, New Mexico

FIGURE
2



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Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit 21 Riser
Incident Number: NAPP2322742848
Unit A, Section 35, T22S, R30E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
James Ranch Unit 21 Riser
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~~	~~09/19/2023~~	~~0.5~~	~~<0.00200~~	~~<0.00399~~	~~<49.6~~	~~156~~	~~69.5~~	~~156~~	~~**226**~~	~~**6,130**~~
~~BH01~~	~~10/10/2023~~	~~1~~	~~<0.00201~~	~~<0.00402~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~326~~
~~SS02~~	~~09/19/2023~~	~~0.5~~	~~<0.00199~~	~~<0.00398~~	~~<50.3~~	~~<50.3~~	~~<50.3~~	~~<50.3~~	~~<50.3~~	~~**4,320**~~
~~BH02~~	~~10/10/2023~~	~~4~~	~~<0.00200~~	~~<0.00401~~	~~<50.5~~	~~<50.5~~	~~<50.5~~	~~<50.5~~	~~<50.5~~	~~7,830~~
~~SS03~~	~~09/19/2023~~	~~0.5~~	~~<0.00198~~	~~0.00407~~	~~<50.4~~	~~106~~	~~<50.4~~	~~106~~	~~**106**~~	~~**7,760**~~
~~BH03~~	~~10/10/2023~~	~~4~~	~~<0.00200~~	~~<0.00399~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~<49.9~~	~~7,330~~
~~SS04~~	~~09/19/2023~~	~~0.5~~	~~<0.00198~~	~~<0.00397~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~<50.1~~	~~**6,250**~~
~~BH04~~	~~10/10/2023~~	~~1~~	~~<0.00202~~	~~<0.00404~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~<49.7~~	~~311~~
SS05	09/19/2023	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	134
SS06	09/19/2023	0.5	<0.00200	<0.00399	<49.5	<49.5	<49.5	<49.5	<49.5	56.6
SS07	09/19/2023	0.5	<0.00200	<0.00401	<49.6	<49.6	<49.6	<49.6	<49.6	97.7
SS08	09/19/2023	0.5	<0.00199	<0.00398	<50.2	<50.2	<50.2	<50.2	<50.2	32.0
Confirmation Soil Samples										
FS01	10/11/2023	1	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	150
FS02	10/12/2023	1	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	291
FS03	10/12/2023	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	111
FS04	10/12/2023	1	<0.00200	<0.00399	<49.6	<49.6	<49.6	<49.6	<49.6	195
FS05	10/12/2023	1	<0.00201	<0.00402	<50.3	<50.3	<50.3	<50.3	<50.3	291
FS06	10/12/2023	1	<0.00200	<0.00401	<50.5	<50.5	<50.5	<50.5	<50.5	285
FS07	10/12/2023	1	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	329
FS08	10/11/2023	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	159
FS09	10/12/2023	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	105
FS10	10/12/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	112
FS11	10/12/2023	1	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	149
FS12	10/13/2023	4	<0.00201	<0.00402	<50.1	<50.1	<50.1	<50.1	<50.1	455
FS13	10/13/2023	4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	290
FS14	10/13/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	217
FS15	10/13/2023	4	<0.00200	<0.00399	<49.7	<49.7	<49.7	<49.7	<49.7	180
SW01	10/12/2023	0 - 1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	119
SW02	10/11/2023	0 - 1	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	168
SW03	10/12/2023	0 - 1	<0.00199	<0.00398	<50.1	<50.1	<50.1	<50.1	<50.1	84.7

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
James Ranch Unit 21 Riser
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**
SW04	10/13/2023	0 - 4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	275
SW05	10/13/2023	0 - 4	<0.00199	<0.00398	<50.3	<50.3	<50.3	<50.3	<50.3	199
SW06	10/13/2023	0 - 4	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	370
SW07	10/13/2023	0 - 4	<0.00200	<0.00399	<50.1	<50.1	<50.1	<50.1	<50.1	244

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

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
C-4731 Pod1	BH01	C-4731

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy, Inc	575-200-0729

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
3104 E. Green St.	Carlsbad	NM	88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	31	21	42.96	N
	LONGITUDE	103	50	16.72	W

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

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

Unit K, Sec 25, T22S, R30E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1188	SCARBOROUGH DRILLING INC	SCARBOROUGH DRILLING INC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
4/14/23	4/14/23	106	106	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): >106

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)
0	106	8	NA				

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
			NA		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	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	10	10	Dark Red very fine Sand	Y ✓ N	
10	80	70	Red-brown very fine Sand	Y ✓ N	
80	106	30	Pink/red very fine sand with gypsum crystals	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	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

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: Boring was backfilled and properly abandoned following OSE procedures.

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

LANE SCARBOROUGH

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

Lane Scarborough LANE SCARBOROUGH 06/01/2023

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
James Ranch Unit 21 Riser
Incident Number nAPP2322742848

Photograph 1 Date: 09/19/2023
Description: Site assessment activities, release extent
View: Southeast

Photograph 2 Date: 10/10/2023
Description: Delineation activities, PH02.
View: Northwest

Photograph 3 Date: 10/12/2023
Description: Excavation extent.
View: Northeast

Photograph 4 Date: 10/13/2023
Description: Excavation extent.
View: West

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

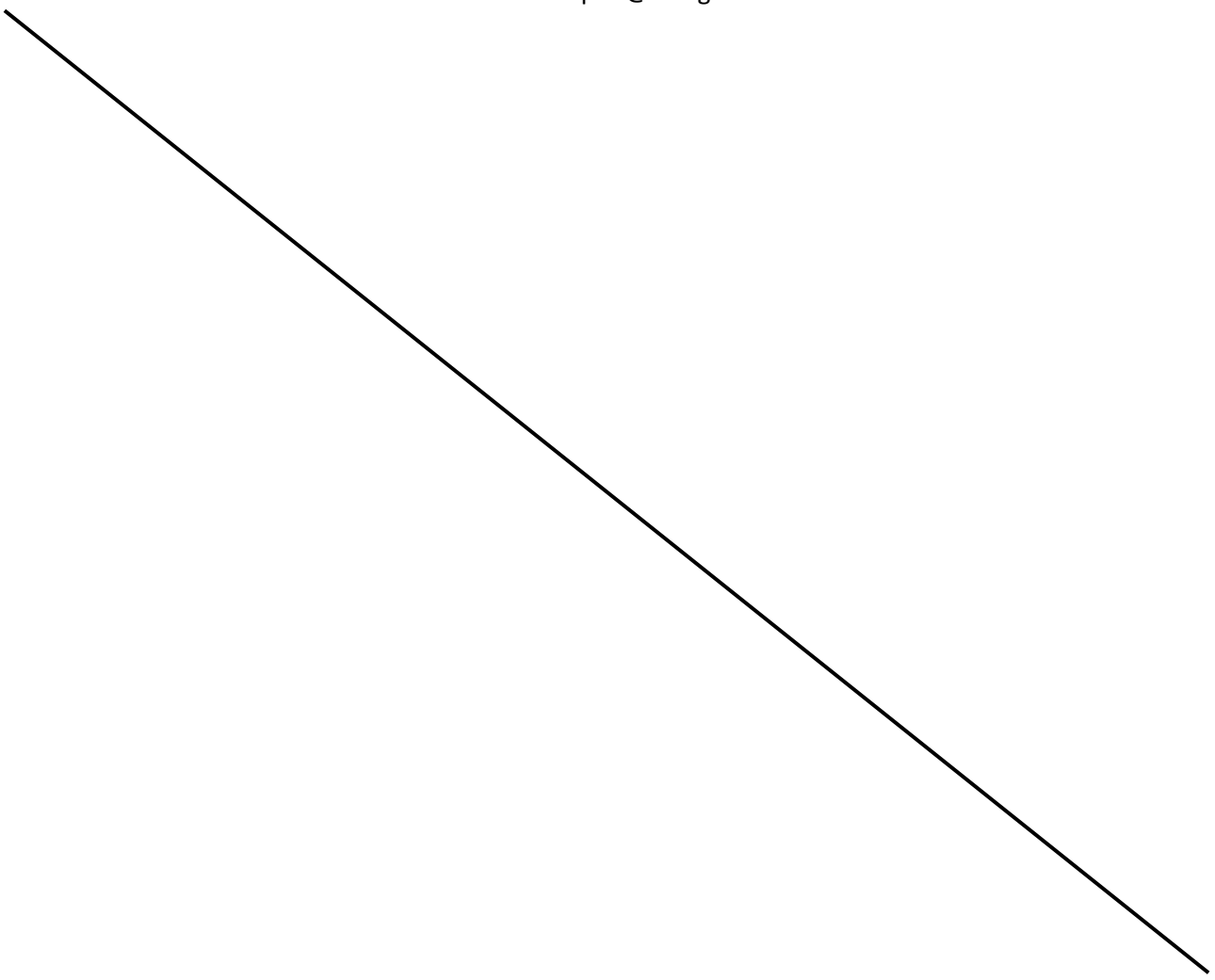
ENSOLUM

	Sample Name: BH01	Date: 10/10/2023
	Site Name: James Ranch Unit 21 Riser	
	Incident Number: nAPP2322742848	
	Job Number: 03C1558276	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.355140, -103.846279	Hole Diameter: 3.5"	Total Depth: 1'

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 made 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	15,439	0.3	Y	SS01	0.5		SP	Sand. Reddish brown, very fine to fine grained, poorly graded, moist.
M	<168	0.0	N	BH01	1	1		

Total Depth @ 1' bgs.



ENSOLUM

	Sample Name: BH02	Date: 10/10/2023
	Site Name: James Ranch Unit 21 Riser	
	Incident Number: nAPP2322742848	
	Job Number: 03C1558276	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates 32.355065, -103.846210	Hole Diameter: 3.5"	Total Depth: 4'

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 made 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	12,896	0.2	Y	SS02	0.5		SP	Sand. Reddish brown, very fine to fine grained, poorly graded, moist.
M	1,859	0.0	N		1	1		
M	1,400	0.0	N		2	2		
M	4,469	0.0	N		3	3		
M	5,729	0.0	N	BH02	4	4		SAA, but trace CCHE.

Total Depth @ 4' bgs. Hand Auger refusal.

ENSOLUM

	Sample Name: BH03	Date: 10/10/2023
	Site Name: James Ranch Unit 21 Riser	
	Incident Number: nAPP2322742848	
	Job Number: 03C1558276	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.355019, -103.846097	Hole Diameter: 3.5"	Total Depth: 4'

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 made 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	16,917	0.4	Y	SS03	0.5		SP	Sand. Reddish brown, very fine to fine grained, poorly graded, moist.
M	1,299	0.0	N		1	1		
M	1,506	0.0	N		2	2		
M	3,427	0.0	N		3	3		
M	4,861	0.0	N	BH03	4	4		SAA, but trace CCHE.

Total Depth @ 4' bgs. Hand Auger refusal.

ENSOLUM

	Sample Name: BH04	Date: 10/10/2023
	Site Name: James Ranch Unit 21 Riser	
	Incident Number: nAPP2322742848	
	Job Number: 03C1558276	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Hand Auger
Coordinates: 32.355046, -103.845869	Hole Diameter: 3.5"	Total Depth: 1'

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 made with a +40% correction factor.

Moisture	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
D	16,917	0.3	Y	SS04	0.5		SP	Sand. Reddish brown, very fine to fine grained, poorly graded, moist.
M	<168	0.0	N	BH04	1	1		

Total Depth @ 1' bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 9/26/2023 9:38:33 AM

JOB DESCRIPTION

James Ranch 21 Riser
SDG NUMBER 32.35505,-103.4532

JOB NUMBER

890-5311-1

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

Generated
9/26/2023 9:38:33 AM

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

Client: Ensolum
Project/Site: James Ranch 21 Riser

Laboratory Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Table of Contents

Definitions/Glossary

Client: Ensolum
Job ID: 890-5311-1
Project/Site: James Ranch 21 Riser
SDG: 32.35505,-103.4532

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Job ID: 890-5311-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5311-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 9/20/2023 4:04 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 0.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-5311-1), SS02 (890-5311-2), SS03 (890-5311-3), SS04 (890-5311-4), SS05 (890-5311-5), SS06 (890-5311-6), SS07 (890-5311-7) and SS08 (890-5311-8).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: SS07 (890-5311-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS06 (890-5311-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-5310-A-1-H 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: SS01 (890-5311-1) and SS05 (890-5311-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS07 (890-5311-7). 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 880-63132/20), (CCV 880-63132/31), (CCV 880-63132/47), (CCV 880-63132/5), (CCV 880-63132/58) and (LCS 880-63115/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-63115 and analytical batch 880-63132 contained Diesel Range Organics (Over C10-C28) 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.

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 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Job ID: 890-5311-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS01

Lab Sample ID: 890-5311-1
Matrix: Solid
Date Collected: 09/19/23 14:50
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 17:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 17:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 17:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/22/23 12:00	09/22/23 17:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 17:44	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/22/23 12:00	09/22/23 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*73*		*70 - 130*	*09/22/23 12:00*	*09/22/23 17:44*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/22/23 12:00*	*09/22/23 17:44*	*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			09/22/23 17:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**226**		49.6		mg/Kg			09/23/23 13:18	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		09/22/23 17:09	09/23/23 13:18	1
Diesel Range Organics (Over C10-C28)	**156**		49.6		mg/Kg		09/22/23 17:09	09/23/23 13:18	1
Oil Range Organics (Over C28-C36)	**69.5**		49.6		mg/Kg		09/22/23 17:09	09/23/23 13:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*09/22/23 17:09*	*09/23/23 13:18*	*1*
o-Terphenyl	*67*	*S1-*	*70 - 130*	*09/22/23 17:09*	*09/23/23 13:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6130**		49.6		mg/Kg			09/25/23 20:17	10

Client Sample ID: SS02

Lab Sample ID: 890-5311-2
Matrix: Solid
Date Collected: 09/19/23 14:52
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 18:04	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 18:04	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 18:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/22/23 12:00	09/22/23 18:04	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 18:04	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/22/23 12:00	09/22/23 18:04	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS02

Lab Sample ID: 890-5311-2
Matrix: Solid
Date Collected: 09/19/23 14:52
Date Received: 09/20/23 16:04
Sample Depth: 0.5'

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:04*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:04*	*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			09/22/23 18:04	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			09/23/23 13:39	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		09/22/23 17:09	09/23/23 13:39	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		09/22/23 17:09	09/23/23 13:39	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		09/22/23 17:09	09/23/23 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*09/22/23 17:09*	*09/23/23 13:39*	*1*
o-Terphenyl	*74*		*70 - 130*	*09/22/23 17:09*	*09/23/23 13:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4320**		24.9	mg/Kg			09/25/23 20:35	5

Client Sample ID: SS03

Lab Sample ID: 890-5311-3
Matrix: Solid
Date Collected: 09/19/23 14:56
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 18:25	1
Toluene	**0.00407**		0.00198	mg/Kg		09/22/23 12:00	09/22/23 18:25	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		09/22/23 12:00	09/22/23 18:25	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		09/22/23 12:00	09/22/23 18:25	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		09/22/23 12:00	09/22/23 18:25	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		09/22/23 12:00	09/22/23 18:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:25*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00407**		0.00396	mg/Kg			09/22/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**106**		50.4	mg/Kg			09/23/23 14:00	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS03

Lab Sample ID: 890-5311-3
Matrix: Solid
Date Collected: 09/19/23 14:56
Date Received: 09/20/23 16:04
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		09/22/23 17:09	09/23/23 14:00	1
Diesel Range Organics (Over C10-C28)	**106**		50.4		mg/Kg		09/22/23 17:09	09/23/23 14:00	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		09/22/23 17:09	09/23/23 14:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*09/22/23 17:09*	*09/23/23 14:00*	*1*
o-Terphenyl	*70*		*70 - 130*	*09/22/23 17:09*	*09/23/23 14:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7760**		50.3		mg/Kg			09/25/23 20:41	10

Client Sample ID: SS04

Lab Sample ID: 890-5311-4
Matrix: Solid
Date Collected: 09/19/23 14:59
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 18:45	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/22/23 12:00	09/22/23 18:45	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/22/23 12:00	09/22/23 18:45	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/22/23 12:00	09/22/23 18:45	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/22/23 12:00	09/22/23 18:45	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/22/23 12:00	09/22/23 18:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:45*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*09/22/23 12:00*	*09/22/23 18:45*	*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			09/22/23 18:45	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			09/23/23 14:22	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		09/22/23 17:09	09/23/23 14:22	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		09/22/23 17:09	09/23/23 14:22	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		09/22/23 17:09	09/23/23 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*09/22/23 17:09*	*09/23/23 14:22*	*1*
o-Terphenyl	*75*		*70 - 130*	*09/22/23 17:09*	*09/23/23 14:22*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS04

Date Collected: 09/19/23 14:59
Date Received: 09/20/23 16:04
Sample Depth: 0.5'

Lab Sample ID: 890-5311-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6250		50.1		mg/Kg			09/25/23 20:47	10

Client Sample ID: SS05

Date Collected: 09/19/23 15:45
Date Received: 09/20/23 16:04
Sample Depth: 0.5'

Lab Sample ID: 890-5311-5
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		09/22/23 12:00	09/22/23 19:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 19:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 19:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/22/23 12:00	09/22/23 19:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/22/23 12:00	09/22/23 19:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/22/23 12:00	09/22/23 19:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*09/22/23 12:00*	*09/22/23 19:06*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/22/23 12:00*	*09/22/23 19:06*	*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			09/22/23 19:06	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			09/23/23 14:43	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		09/22/23 17:09	09/23/23 14:43	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		09/22/23 17:09	09/23/23 14:43	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		09/22/23 17:09	09/23/23 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*09/22/23 17:09*	*09/23/23 14:43*	*1*
o-Terphenyl	*68*	*S1-*	*70 - 130*	*09/22/23 17:09*	*09/23/23 14:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	134		5.02		mg/Kg			09/25/23 20:53	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS06

Lab Sample ID: 890-5311-6
Matrix: Solid
Date Collected: 09/19/23 15:50
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 19:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:26	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/22/23 12:00	09/22/23 19:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:26	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/22/23 12:00	09/22/23 19:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*09/22/23 12:00*	*09/22/23 19:26*	*1*
1,4-Difluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*09/22/23 12:00*	*09/22/23 19:26*	*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			09/22/23 19:26	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			09/23/23 15:04	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		09/22/23 17:09	09/23/23 15:04	1
Diesel Range Organics (Over C10-C28)	<49.5	U	49.5		mg/Kg		09/22/23 17:09	09/23/23 15:04	1
OII Range Organics (Over C28-C36)	<49.5	U	49.5		mg/Kg		09/22/23 17:09	09/23/23 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*09/22/23 17:09*	*09/23/23 15:04*	*1*
o-Terphenyl	*71*		*70 - 130*	*09/22/23 17:09*	*09/23/23 15:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**56.6**		5.01		mg/Kg			09/25/23 20:58	1

Client Sample ID: SS07

Lab Sample ID: 890-5311-7
Matrix: Solid
Date Collected: 09/19/23 15:53
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 19:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:46	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/22/23 12:00	09/22/23 19:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/22/23 12:00	09/22/23 19:46	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/22/23 12:00	09/22/23 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*09/22/23 12:00*	*09/22/23 19:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS07

Lab Sample ID: 890-5311-7
Matrix: Solid
Date Collected: 09/19/23 15:53
Date Received: 09/20/23 16:04
Sample Depth: 0.5'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*09/22/23 12:00*	*09/22/23 19:46*	*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			09/22/23 19:46	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			09/23/23 15:46	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		09/22/23 17:09	09/23/23 15:46	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6	mg/Kg		09/22/23 17:09	09/23/23 15:46	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6	mg/Kg		09/22/23 17:09	09/23/23 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*09/22/23 17:09*	*09/23/23 15:46*	*1*
o-Terphenyl	*61*	*S1-*	*70 - 130*	*09/22/23 17:09*	*09/23/23 15:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**97.7**		4.99	mg/Kg			09/25/23 21:04	1

Client Sample ID: SS08

Lab Sample ID: 890-5311-8
Matrix: Solid
Date Collected: 09/19/23 15:56
Date Received: 09/20/23 16:04
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		09/22/23 12:00	09/22/23 20:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		09/22/23 12:00	09/22/23 20:07	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		09/22/23 12:00	09/22/23 20:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		09/22/23 12:00	09/22/23 20:07	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		09/22/23 12:00	09/22/23 20:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		09/22/23 12:00	09/22/23 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*09/22/23 12:00*	*09/22/23 20:07*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*09/22/23 12:00*	*09/22/23 20:07*	*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			09/22/23 20:07	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			09/23/23 16:07	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS08

Date Collected: 09/19/23 15:56
Date Received: 09/20/23 16:04
Sample Depth: 0.5'

Lab Sample ID: 890-5311-8

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		09/22/23 17:09	09/23/23 16:07	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		09/22/23 17:09	09/23/23 16:07	1
Oil Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		09/22/23 17:09	09/23/23 16:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*09/22/23 17:09*	*09/23/23 16:07*	*1*
o-Terphenyl	*73*		*70 - 130*	*09/22/23 17:09*	*09/23/23 16:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**32.0**		5.05		mg/Kg			09/25/23 21:22	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-33489-A-1-C MS	Matrix Spike	123	103
880-33489-A-1-D MSD	Matrix Spike Duplicate	118	105
890-5311-1	SS01	73	99
890-5311-2	SS02	81	92
890-5311-3	SS03	71	101
890-5311-4	SS04	97	81
890-5311-5	SS05	82	90
890-5311-6	SS06	90	68 S1-
890-5311-7	SS07	65 S1-	102
890-5311-8	SS08	80	91
LCS 880-63016/1-A	Lab Control Sample	112	104
LCSD 880-63016/2-A	Lab Control Sample Dup	112	109
MB 880-63016/5-A	Method Blank	74	93

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)
890-5310-A-1-G MS	Matrix Spike	81	71
890-5310-A-1-H MSD	Matrix Spike Duplicate	79	69 S1-
890-5311-1	SS01	77	67 S1-
890-5311-2	SS02	81	74
890-5311-3	SS03	79	70
890-5311-4	SS04	85	75
890-5311-5	SS05	76	68 S1-
890-5311-6	SS06	78	71
890-5311-7	SS07	69 S1-	61 S1-
890-5311-8	SS08	80	73
LCS 880-63115/2-A	Lab Control Sample	132 S1+	138 S1+
LCSD 880-63115/3-A	Lab Control Sample Dup	103	103
MB 880-63115/1-A - IN3	Method Blank	111	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-63016/5-A
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63016

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/21/23 16:26	09/22/23 11:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/21/23 16:26	09/22/23 11:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/21/23 16:26	09/22/23 11:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/21/23 16:26	09/22/23 11:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/21/23 16:26	09/22/23 11:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/21/23 16:26	09/22/23 11:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*	*09/21/23 16:26*	*09/22/23 11:52*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*09/21/23 16:26*	*09/22/23 11:52*	*1*

Lab Sample ID: LCS 880-63016/1-A
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63016

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09536		mg/Kg		95	70 - 130		
Toluene			0.100	0.09705		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.09230		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.1933		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.09527		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-63016/2-A
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63016

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09460		mg/Kg		95	70 - 130	1	35
Toluene			0.100	0.09742		mg/Kg		97	70 - 130	0	35
Ethylbenzene			0.100	0.09571		mg/Kg		96	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.2044		mg/Kg		102	70 - 130	6	35
o-Xylene			0.100	0.1026		mg/Kg		103	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 880-33489-A-1-C MS
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.09461		mg/Kg		95	70 - 130		
Toluene	<0.00200	U	0.0996	0.09238		mg/Kg		93	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

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

Lab Sample ID: 880-33489-A-1-C MS
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.08903		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1783		mg/Kg		90	70 - 130
o-Xylene	<0.00200	U	0.0996	0.08863		mg/Kg		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-33489-A-1-D MSD
Matrix: Solid
Analysis Batch: 63041

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0996	0.09509		mg/Kg		95	70 - 130	1	35
Toluene	<0.00200	U	0.0996	0.09511		mg/Kg		95	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.0996	0.09523		mg/Kg		96	70 - 130	7	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1997		mg/Kg		100	70 - 130	11	35
o-Xylene	<0.00200	U	0.0996	0.09839		mg/Kg		99	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

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

Lab Sample ID: LCS 880-63115/2-A
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	726.2		mg/Kg		73	70 - 130
Diesel Range Organics (Over C10-C28)	1000	892.4		mg/Kg		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*132*	*S1+*	*70 - 130*
o-Terphenyl	*138*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-63115/3-A
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63115

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	832.8		mg/Kg		83	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	1000	976.0		mg/Kg		98	70 - 130	9	20

QC Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

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

Lab Sample ID: LCSD 880-63115/3-A
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63115

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: 890-5310-A-1-G MS
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 63115

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	1010	713.8		mg/Kg		71	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	725.5		mg/Kg		72	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Lab Sample ID: 890-5310-A-1-H MSD
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 63115

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	1010	709.5		mg/Kg		70	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	712.9		mg/Kg		71	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*79*		*70 - 130*
o-Terphenyl	*69*	*S1-*	*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC) - IN3

Lab Sample ID: MB 880-63115/1-A
Matrix: Solid
Analysis Batch: 63132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63115

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10 - IN3	<50.0	U	50.0		mg/Kg		09/22/23 17:09	09/23/23 08:04	1
Diesel Range Organics (Over C10-C28) - IN3	<50.0	U	50.0		mg/Kg		09/22/23 17:09	09/23/23 08:04	1
OII Range Organics (Over C28-C36) - IN3	<50.0	U	50.0		mg/Kg		09/22/23 17:09	09/23/23 08:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane - IN3	*111*		*70 - 130*	*09/22/23 17:09*	*09/23/23 08:04*	*1*
o-Terphenyl - IN3	*111*		*70 - 130*	*09/22/23 17:09*	*09/23/23 08:04*	*1*

QC Sample Results

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-63064/1-A
Matrix: Solid
Analysis Batch: 63234

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			09/25/23 19:25	1

Lab Sample ID: LCS 880-63064/2-A
Matrix: Solid
Analysis Batch: 63234

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.2		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-63064/3-A
Matrix: Solid
Analysis Batch: 63234

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	246.5		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-5311-7 MS
Matrix: Solid
Analysis Batch: 63234

Client Sample ID: SS07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	97.7		250	361.9		mg/Kg		106	90 - 110		

Lab Sample ID: 890-5311-7 MSD
Matrix: Solid
Analysis Batch: 63234

Client Sample ID: SS07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	97.7		250	362.6		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

GC VOA

Prep Batch: 63016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	5035	
890-5311-2	SS02	Total/NA	Solid	5035	
890-5311-3	SS03	Total/NA	Solid	5035	
890-5311-4	SS04	Total/NA	Solid	5035	
890-5311-5	SS05	Total/NA	Solid	5035	
890-5311-6	SS06	Total/NA	Solid	5035	
890-5311-7	SS07	Total/NA	Solid	5035	
890-5311-8	SS08	Total/NA	Solid	5035	
MB 880-63016/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-63016/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-63016/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-33489-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-33489-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 63041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	8021B	63016
890-5311-2	SS02	Total/NA	Solid	8021B	63016
890-5311-3	SS03	Total/NA	Solid	8021B	63016
890-5311-4	SS04	Total/NA	Solid	8021B	63016
890-5311-5	SS05	Total/NA	Solid	8021B	63016
890-5311-6	SS06	Total/NA	Solid	8021B	63016
890-5311-7	SS07	Total/NA	Solid	8021B	63016
890-5311-8	SS08	Total/NA	Solid	8021B	63016
MB 880-63016/5-A	Method Blank	Total/NA	Solid	8021B	63016
LCS 880-63016/1-A	Lab Control Sample	Total/NA	Solid	8021B	63016
LCSD 880-63016/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	63016
880-33489-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	63016
880-33489-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	63016

Analysis Batch: 63242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	Total BTEX	
890-5311-2	SS02	Total/NA	Solid	Total BTEX	
890-5311-3	SS03	Total/NA	Solid	Total BTEX	
890-5311-4	SS04	Total/NA	Solid	Total BTEX	
890-5311-5	SS05	Total/NA	Solid	Total BTEX	
890-5311-6	SS06	Total/NA	Solid	Total BTEX	
890-5311-7	SS07	Total/NA	Solid	Total BTEX	
890-5311-8	SS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 63115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	8015NM Prep	
890-5311-2	SS02	Total/NA	Solid	8015NM Prep	
890-5311-3	SS03	Total/NA	Solid	8015NM Prep	
890-5311-4	SS04	Total/NA	Solid	8015NM Prep	
890-5311-5	SS05	Total/NA	Solid	8015NM Prep	
890-5311-6	SS06	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

GC Semi VOA (Continued)

Prep Batch: 63115 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-7	SS07	Total/NA	Solid	8015NM Prep	
890-5311-8	SS08	Total/NA	Solid	8015NM Prep	
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 63132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	8015B NM	63115
890-5311-2	SS02	Total/NA	Solid	8015B NM	63115
890-5311-3	SS03	Total/NA	Solid	8015B NM	63115
890-5311-4	SS04	Total/NA	Solid	8015B NM	63115
890-5311-5	SS05	Total/NA	Solid	8015B NM	63115
890-5311-6	SS06	Total/NA	Solid	8015B NM	63115
890-5311-7	SS07	Total/NA	Solid	8015B NM	63115
890-5311-8	SS08	Total/NA	Solid	8015B NM	63115
MB 880-63115/1-A - IN3	Method Blank	Total/NA	Solid	8015B NM	63115
LCS 880-63115/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	63115
LCSD 880-63115/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	63115
890-5310-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	63115
890-5310-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	63115

Analysis Batch: 63158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Total/NA	Solid	8015 NM	
890-5311-2	SS02	Total/NA	Solid	8015 NM	
890-5311-3	SS03	Total/NA	Solid	8015 NM	
890-5311-4	SS04	Total/NA	Solid	8015 NM	
890-5311-5	SS05	Total/NA	Solid	8015 NM	
890-5311-6	SS06	Total/NA	Solid	8015 NM	
890-5311-7	SS07	Total/NA	Solid	8015 NM	
890-5311-8	SS08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 63064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Soluble	Solid	DI Leach	
890-5311-2	SS02	Soluble	Solid	DI Leach	
890-5311-3	SS03	Soluble	Solid	DI Leach	
890-5311-4	SS04	Soluble	Solid	DI Leach	
890-5311-5	SS05	Soluble	Solid	DI Leach	
890-5311-6	SS06	Soluble	Solid	DI Leach	
890-5311-7	SS07	Soluble	Solid	DI Leach	
890-5311-8	SS08	Soluble	Solid	DI Leach	
MB 880-63064/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-63064/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-63064/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5311-7 MS	SS07	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

HPLC/IC (Continued)

Leach Batch: 63064 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-7 MSD	SS07	Soluble	Solid	DI Leach	

Analysis Batch: 63234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5311-1	SS01	Soluble	Solid	300.0	63064
890-5311-2	SS02	Soluble	Solid	300.0	63064
890-5311-3	SS03	Soluble	Solid	300.0	63064
890-5311-4	SS04	Soluble	Solid	300.0	63064
890-5311-5	SS05	Soluble	Solid	300.0	63064
890-5311-6	SS06	Soluble	Solid	300.0	63064
890-5311-7	SS07	Soluble	Solid	300.0	63064
890-5311-8	SS08	Soluble	Solid	300.0	63064
MB 880-63064/1-A	Method Blank	Soluble	Solid	300.0	63064
LCS 880-63064/2-A	Lab Control Sample	Soluble	Solid	300.0	63064
LCSD 880-63064/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	63064
890-5311-7 MS	SS07	Soluble	Solid	300.0	63064
890-5311-7 MSD	SS07	Soluble	Solid	300.0	63064

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS01
Date Collected: 09/19/23 14:50
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-1
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	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 17:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 17:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 13:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 13:18	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	63234	09/25/23 20:17	CH	EET MID

Client Sample ID: SS02
Date Collected: 09/19/23 14:52
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-2
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	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 18:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 18:04	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 13:39	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 13:39	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	63234	09/25/23 20:35	CH	EET MID

Client Sample ID: SS03
Date Collected: 09/19/23 14:56
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-3
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			5.05 g	5 mL	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 18:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 18:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 14:00	SM	EET MID
Total/NA	Prep	8015NM Prep			9.93 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 14:00	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	63234	09/25/23 20:41	CH	EET MID

Client Sample ID: SS04
Date Collected: 09/19/23 14:59
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-4
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			5.04 g	5 mL	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 18:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 18:45	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS04
Date Collected: 09/19/23 14:59
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-4
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			63158	09/23/23 14:22	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 14:22	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	63234	09/25/23 20:47	CH	EET MID

Client Sample ID: SS05
Date Collected: 09/19/23 15:45
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 19:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 19:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 14:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 14:43	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	63234	09/25/23 20:53	CH	EET MID

Client Sample ID: SS06
Date Collected: 09/19/23 15:50
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 19:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 19:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 15:04	SM	EET MID
Total/NA	Prep	8015NM Prep			10.10 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 15:04	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	63234	09/25/23 20:58	CH	EET MID

Client Sample ID: SS07
Date Collected: 09/19/23 15:53
Date Received: 09/20/23 16:04

Lab Sample ID: 890-5311-7
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			4.99 g	5 mL	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 19:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 19:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 15:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 15:46	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Client Sample ID: SS07

Lab Sample ID: 890-5311-7
Matrix: Solid
Date Collected: 09/19/23 15:53
Date Received: 09/20/23 16:04

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	63234	09/25/23 21:04	CH	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-5311-8
Matrix: Solid
Date Collected: 09/19/23 15:56
Date Received: 09/20/23 16:04

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	63016	09/22/23 12:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	63041	09/22/23 20:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			63242	09/22/23 20:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			63158	09/23/23 16:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	63115	09/22/23 17:09	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	63132	09/23/23 16:07	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	63064	09/22/23 11:15	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	63234	09/25/23 21:22	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
Job ID: 890-5311-1
Project/Site: James Ranch 21 Riser
SDG: 32.35505,-103.4532

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 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

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 21 Riser

Job ID: 890-5311-1
SDG: 32.35505,-103.4532

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5311-1	SS01	Solid	09/19/23 14:50	09/20/23 16:04	0.5'
890-5311-2	SS02	Solid	09/19/23 14:52	09/20/23 16:04	0.5'
890-5311-3	SS03	Solid	09/19/23 14:56	09/20/23 16:04	0.5'
890-5311-4	SS04	Solid	09/19/23 14:59	09/20/23 16:04	0.5'
890-5311-5	SS05	Solid	09/19/23 15:45	09/20/23 16:04	0.5'
890-5311-6	SS06	Solid	09/19/23 15:50	09/20/23 16:04	0.5'
890-5311-7	SS07	Solid	09/19/23 15:53	09/20/23 16:04	0.5'
890-5311-8	SS08	Solid	09/19/23 15:56	09/20/23 16:04	0.5'

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garett Green
Company Name:	Ensolum LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E Green 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:	Sumes Ranch 21 Riser	Turn Around	
Project Number:	03C1558276	☑ Routine ☐ Rush	
Project Location:	32.35505, -103.84582	Due Date:	9/25/23
Sampler's Name:	Zarah Welborn	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:	TNM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	-0
Total Containers:		Corrected Temperature:	-0.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	BTEX	TPH
SS01	S	09/19/23	14:50	0.5'	G	1				
SS02			14:52							
SS03			14:56							
SS04			14:59							
SS05			15:45							
SS06			15:50							
SS07			15:53							
SS08			15:56							

890-5311 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

cost center
10817.1001

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		9/20 1604	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5311-1
SDG Number: 32.35505,-103.4532

Login Number: 5311
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: 890-5311-1
SDG Number: 32.35505,-103.4532

Login Number: 5311
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 09/22/23 10:54 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/16/2023 11:24:49 AM

JOB DESCRIPTION

JAMES RANCH UNIT 21 RISER
SDG NUMBER 03C1558276

JOB NUMBER

890-5432-1

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
10/16/2023 11:24:49 AM

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

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Laboratory Job ID: 890-5432-1
SDG: 03C1558276

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Qualifiers

GC VOA

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

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 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Job ID: 890-5432-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5432-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/10/2023 3:42 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-5432-1), BH02 (890-5432-2), BH03 (890-5432-3) and BH04 (890-5432-4).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-64562 and analytical batch 880-64515 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-64562/2-A) and (LCSD 880-64562/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH01 (890-5432-1), BH02 (890-5432-2), BH03 (890-5432-3), BH04 (890-5432-4), (890-5445-A-8-C), (890-5445-A-8-D MS) and (890-5445-A-8-E MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-64515 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) due to being inadvertently double spiked. Percent recoveries are based on the amount spiked. The associated samples are impacted: (CCV 880-64515/31) and (CCV 880-64515/47).

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-64562 and analytical batch 880-64515 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 8015MOD_NM: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample duplicate (LCSD) associated with preparation batch 880-64562 and analytical batch 880-64515. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

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 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Job ID: 890-5432-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH01

Lab Sample ID: 890-5432-1
Matrix: Solid
Date Collected: 10/10/23 10:00
Date Received: 10/10/23 15:42
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		10/11/23 16:59	10/12/23 17:25	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/11/23 16:59	10/12/23 17:25	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/11/23 16:59	10/12/23 17:25	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/11/23 16:59	10/12/23 17:25	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/11/23 16:59	10/12/23 17:25	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/11/23 16:59	10/12/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/11/23 16:59*	*10/12/23 17:25*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/11/23 16:59*	*10/12/23 17:25*	*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			10/12/23 17:25	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			10/12/23 22:41	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 *1	50.1		mg/Kg		10/12/23 13:28	10/12/23 22:41	1
Diesel Range Organics (Over C10-C28)	<50.1	U *- *1	50.1		mg/Kg		10/12/23 13:28	10/12/23 22:41	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/12/23 13:28	10/12/23 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*154*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 22:41*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 22:41*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**326**		4.98		mg/Kg			10/13/23 16:31	1

Client Sample ID: BH02

Lab Sample ID: 890-5432-2
Matrix: Solid
Date Collected: 10/10/23 11:00
Date Received: 10/10/23 15:42
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		10/11/23 16:59	10/12/23 17:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 17:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 17:46	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/11/23 16:59	10/12/23 17:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 17:46	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/11/23 16:59	10/12/23 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/11/23 16:59*	*10/12/23 17:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH02

Date Collected: 10/10/23 11:00
Date Received: 10/10/23 15:42
Sample Depth: 4'

Lab Sample ID: 890-5432-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/11/23 16:59*	*10/12/23 17:46*	*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			10/12/23 17:46	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			10/12/23 23:03	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 *1	50.5		mg/Kg		10/12/23 13:28	10/12/23 23:03	1
Diesel Range Organics (Over C10-C28)	<50.5	U *- *1	50.5		mg/Kg		10/12/23 13:28	10/12/23 23:03	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/12/23 13:28	10/12/23 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*151*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:03*	*1*
o-Terphenyl	*144*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7830**		49.7		mg/Kg			10/13/23 16:36	10

Client Sample ID: BH03

Date Collected: 10/10/23 11:35
Date Received: 10/10/23 15:42
Sample Depth: 4'

Lab Sample ID: 890-5432-3

Matrix: Solid

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		10/11/23 16:59	10/12/23 18:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 18:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 18:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/11/23 16:59	10/12/23 18:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 18:06	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/11/23 16:59	10/12/23 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*10/11/23 16:59*	*10/12/23 18:06*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*10/11/23 16:59*	*10/12/23 18:06*	*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			10/12/23 18:06	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			10/12/23 23:25	1

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH03

Lab Sample ID: 890-5432-3
Matrix: Solid
Date Collected: 10/10/23 11:35
Date Received: 10/10/23 15:42
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	<49.9	U *1	49.9		mg/Kg		10/12/23 13:28	10/12/23 23:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U *- *1	49.9		mg/Kg		10/12/23 13:28	10/12/23 23:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/12/23 13:28	10/12/23 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*166*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:25*	*1*
o-Terphenyl	*158*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7330**		50.0		mg/Kg			10/13/23 16:42	10

Client Sample ID: BH04

Lab Sample ID: 890-5432-4
Matrix: Solid
Date Collected: 10/10/23 11:55
Date Received: 10/10/23 15:42
Sample Depth: 1'

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		10/11/23 16:59	10/12/23 18:27	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/11/23 16:59	10/12/23 18:27	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/11/23 16:59	10/12/23 18:27	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		10/11/23 16:59	10/12/23 18:27	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/11/23 16:59	10/12/23 18:27	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		10/11/23 16:59	10/12/23 18:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*10/11/23 16:59*	*10/12/23 18:27*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/11/23 16:59*	*10/12/23 18:27*	*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			10/12/23 18:27	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			10/12/23 23:47	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 *1	49.7		mg/Kg		10/12/23 13:28	10/12/23 23:47	1
Diesel Range Organics (Over C10-C28)	<49.7	U *- *1	49.7		mg/Kg		10/12/23 13:28	10/12/23 23:47	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		10/12/23 13:28	10/12/23 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*160*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:47*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 23:47*	*1*

Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH04
Date Collected: 10/10/23 11:55
Date Received: 10/10/23 15:42
Sample Depth: 1'

Lab Sample ID: 890-5432-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	311		5.00		mg/Kg			10/12/23 14:36	1

Surrogate Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-34317-A-1-A MS	Matrix Spike	121	97
880-34317-A-1-B MSD	Matrix Spike Duplicate	111	91
890-5432-1	BH01	98	93
890-5432-2	BH02	95	102
890-5432-3	BH03	113	101
890-5432-4	BH04	104	100
LCS 880-64507/1-A	Lab Control Sample	103	96
LCSD 880-64507/2-A	Lab Control Sample Dup	116	94
MB 880-64507/5-A	Method Blank	111	123

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)
890-5432-1	BH01	154 S1+	145 S1+
890-5432-2	BH02	151 S1+	144 S1+
890-5432-3	BH03	166 S1+	158 S1+
890-5432-4	BH04	160 S1+	153 S1+
890-5445-A-8-D MS	Matrix Spike	157 S1+	133 S1+
890-5445-A-8-E MSD	Matrix Spike Duplicate	169 S1+	141 S1+
LCS 880-64562/2-A	Lab Control Sample	142 S1+	163 S1+
LCSD 880-64562/3-A	Lab Control Sample Dup	161 S1+	173 S1+
MB 880-64562/1-A	Method Blank	210 S1+	209 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-64507/5-A
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64507

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 12:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 12:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 12:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/23 16:59	10/12/23 12:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/23 16:59	10/12/23 12:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/23 16:59	10/12/23 12:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*10/11/23 16:59*	*10/12/23 12:01*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*10/11/23 16:59*	*10/12/23 12:01*	*1*

Lab Sample ID: LCS 880-64507/1-A
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64507

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1141		mg/Kg		114	70 - 130		
Toluene			0.100	0.09752		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.1096		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.2067		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.09835		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: LCSD 880-64507/2-A
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64507

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1044		mg/Kg		104	70 - 130	9	35
Toluene			0.100	0.09198		mg/Kg		92	70 - 130	6	35
Ethylbenzene			0.100	0.09293		mg/Kg		93	70 - 130	16	35
m-Xylene & p-Xylene			0.200	0.1806		mg/Kg		90	70 - 130	13	35
o-Xylene			0.100	0.08517		mg/Kg		85	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-34317-A-1-A MS
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.100	0.1080		mg/Kg		108	70 - 130		
Toluene	<0.00202	U	0.100	0.09138		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

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

Lab Sample ID: 880-34317-A-1-A MS
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.100	0.09338		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1900		mg/Kg		95	70 - 130
o-Xylene	<0.00202	U	0.100	0.09359		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-34317-A-1-B MSD
Matrix: Solid
Analysis Batch: 64524

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0998	0.09229		mg/Kg		92	70 - 130	16	35
Toluene	<0.00202	U	0.0998	0.08541		mg/Kg		86	70 - 130	7	35
Ethylbenzene	<0.00202	U	0.0998	0.08788		mg/Kg		88	70 - 130	6	35
m-Xylene & p-Xylene	<0.00403	U	0.200	0.2014		mg/Kg		101	70 - 130	6	35
o-Xylene	<0.00202	U	0.0998	0.09323		mg/Kg		93	70 - 130	0	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*

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

Lab Sample ID: MB 880-64562/1-A
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64562

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		10/12/23 13:28	10/12/23 19:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/12/23 13:28	10/12/23 19:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/12/23 13:28	10/12/23 19:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*210*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 19:45*	*1*
o-Terphenyl	*209*	*S1+*	*70 - 130*	*10/12/23 13:28*	*10/12/23 19:45*	*1*

Lab Sample ID: LCS 880-64562/2-A
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64562

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	1015		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1103		mg/Kg		110	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

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

Lab Sample ID: LCS 880-64562/2-A
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64562

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	142	S1+	70 - 130
o-Terphenyl	163	S1+	70 - 130

Lab Sample ID: LCSD 880-64562/3-A
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64562

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	750.3	*1	mg/Kg		75	70 - 130	30	20
Diesel Range Organics (Over C10-C28)			1000	567.5	*- *1	mg/Kg		57	70 - 130	64	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	161	S1+	70 - 130
o-Terphenyl	173	S1+	70 - 130

Lab Sample ID: 890-5445-A-8-D MS
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64562

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 *1	1010	1005		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	181	F1 *- *1	1010	1527	F1	mg/Kg		134	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	157	S1+	70 - 130
o-Terphenyl	133	S1+	70 - 130

Lab Sample ID: 890-5445-A-8-E MSD
Matrix: Solid
Analysis Batch: 64515

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64562

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 *1	1010	1140		mg/Kg		111	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	181	F1 *- *1	1010	1664	F1	mg/Kg		147	70 - 130	9	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	169	S1+	70 - 130
o-Terphenyl	141	S1+	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-64547/1-A
Matrix: Solid
Analysis Batch: 64549

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			10/12/23 11:57	1

Lab Sample ID: LCS 880-64547/2-A
Matrix: Solid
Analysis Batch: 64549

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-64547/3-A
Matrix: Solid
Analysis Batch: 64549

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	250.2		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 880-34361-A-1-B MS
Matrix: Solid
Analysis Batch: 64549

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	458		251	699.6		mg/Kg		97	90 - 110		

Lab Sample ID: 880-34361-A-1-C MSD
Matrix: Solid
Analysis Batch: 64549

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	458		251	698.5		mg/Kg		96	90 - 110	0	20

Lab Sample ID: MB 880-64436/1-A
Matrix: Solid
Analysis Batch: 64692

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			10/13/23 14:15	1

Lab Sample ID: LCS 880-64436/2-A
Matrix: Solid
Analysis Batch: 64692

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.7		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-64436/3-A
Matrix: Solid
Analysis Batch: 64692

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	250.7		mg/Kg		100	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-34268-A-4-B MS
Matrix: Solid
Analysis Batch: 64692

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	36900		12500	48680		mg/Kg		94	90 - 110		

Lab Sample ID: 880-34268-A-4-C MSD
Matrix: Solid
Analysis Batch: 64692

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	36900		12500	48650		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

GC VOA

Prep Batch: 64507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	5035	
890-5432-2	BH02	Total/NA	Solid	5035	
890-5432-3	BH03	Total/NA	Solid	5035	
890-5432-4	BH04	Total/NA	Solid	5035	
MB 880-64507/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-64507/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-64507/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-34317-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-34317-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 64524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	8021B	64507
890-5432-2	BH02	Total/NA	Solid	8021B	64507
890-5432-3	BH03	Total/NA	Solid	8021B	64507
890-5432-4	BH04	Total/NA	Solid	8021B	64507
MB 880-64507/5-A	Method Blank	Total/NA	Solid	8021B	64507
LCS 880-64507/1-A	Lab Control Sample	Total/NA	Solid	8021B	64507
LCSD 880-64507/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	64507
880-34317-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	64507
880-34317-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	64507

Analysis Batch: 64670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	Total BTEX	
890-5432-2	BH02	Total/NA	Solid	Total BTEX	
890-5432-3	BH03	Total/NA	Solid	Total BTEX	
890-5432-4	BH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 64515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	8015B NM	64562
890-5432-2	BH02	Total/NA	Solid	8015B NM	64562
890-5432-3	BH03	Total/NA	Solid	8015B NM	64562
890-5432-4	BH04	Total/NA	Solid	8015B NM	64562
MB 880-64562/1-A	Method Blank	Total/NA	Solid	8015B NM	64562
LCS 880-64562/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64562
LCSD 880-64562/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64562
890-5445-A-8-D MS	Matrix Spike	Total/NA	Solid	8015B NM	64562
890-5445-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	64562

Prep Batch: 64562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	8015NM Prep	
890-5432-2	BH02	Total/NA	Solid	8015NM Prep	
890-5432-3	BH03	Total/NA	Solid	8015NM Prep	
890-5432-4	BH04	Total/NA	Solid	8015NM Prep	
MB 880-64562/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64562/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

GC Semi VOA (Continued)

Prep Batch: 64562 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-64562/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5445-A-8-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5445-A-8-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 64662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Total/NA	Solid	8015 NM	
890-5432-2	BH02	Total/NA	Solid	8015 NM	
890-5432-3	BH03	Total/NA	Solid	8015 NM	
890-5432-4	BH04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 64436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Soluble	Solid	DI Leach	
890-5432-2	BH02	Soluble	Solid	DI Leach	
890-5432-3	BH03	Soluble	Solid	DI Leach	
MB 880-64436/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64436/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64436/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-34268-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-34268-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 64547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-4	BH04	Soluble	Solid	DI Leach	
MB 880-64547/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64547/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64547/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-34361-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-34361-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 64549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-4	BH04	Soluble	Solid	300.0	64547
MB 880-64547/1-A	Method Blank	Soluble	Solid	300.0	64547
LCS 880-64547/2-A	Lab Control Sample	Soluble	Solid	300.0	64547
LCSD 880-64547/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64547
880-34361-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	64547
880-34361-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	64547

Analysis Batch: 64692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5432-1	BH01	Soluble	Solid	300.0	64436
890-5432-2	BH02	Soluble	Solid	300.0	64436
890-5432-3	BH03	Soluble	Solid	300.0	64436
MB 880-64436/1-A	Method Blank	Soluble	Solid	300.0	64436
LCS 880-64436/2-A	Lab Control Sample	Soluble	Solid	300.0	64436
LCSD 880-64436/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64436
880-34268-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	64436

QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

HPLC/IC (Continued)

Analysis Batch: 64692 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-34268-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	64436

Lab Chronicle

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH01

Lab Sample ID: 890-5432-1
Matrix: Solid
Date Collected: 10/10/23 10:00
Date Received: 10/10/23 15:42

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	64507	10/11/23 16:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64524	10/12/23 17:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64670	10/12/23 17:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			64662	10/12/23 22:41	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	64562	10/12/23 13:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64515	10/12/23 22:41	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	64436	10/12/23 12:00	AG	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	64692	10/13/23 16:31	CH	EET MID

Client Sample ID: BH02

Lab Sample ID: 890-5432-2
Matrix: Solid
Date Collected: 10/10/23 11:00
Date Received: 10/10/23 15:42

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	64507	10/11/23 16:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64524	10/12/23 17:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64670	10/12/23 17:46	SM	EET MID
Total/NA	Analysis	8015 NM		1			64662	10/12/23 23:03	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	64562	10/12/23 13:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64515	10/12/23 23:03	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	64436	10/12/23 12:00	AG	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64692	10/13/23 16:36	CH	EET MID

Client Sample ID: BH03

Lab Sample ID: 890-5432-3
Matrix: Solid
Date Collected: 10/10/23 11:35
Date Received: 10/10/23 15:42

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	64507	10/11/23 16:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64524	10/12/23 18:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64670	10/12/23 18:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			64662	10/12/23 23:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	64562	10/12/23 13:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64515	10/12/23 23:25	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64436	10/12/23 12:00	AG	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	64692	10/13/23 16:42	CH	EET MID

Client Sample ID: BH04

Lab Sample ID: 890-5432-4
Matrix: Solid
Date Collected: 10/10/23 11:55
Date Received: 10/10/23 15:42

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	64507	10/11/23 16:59	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64524	10/12/23 18:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64670	10/12/23 18:27	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: JAMES RANCH UNIT 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Client Sample ID: BH04

Date Collected: 10/10/23 11:55
Date Received: 10/10/23 15:42

Lab Sample ID: 890-5432-4

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			64662	10/12/23 23:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	64562	10/12/23 13:28	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64515	10/12/23 23:47	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64547	10/12/23 12:20	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	64549	10/12/23 14:36	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 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

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 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

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 21 RISER

Job ID: 890-5432-1
SDG: 03C1558276

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5432-1	BH01	Solid	10/10/23 10:00	10/10/23 15:42	1'
890-5432-2	BH02	Solid	10/10/23 11:00	10/10/23 15:42	4'
890-5432-3	BH03	Solid	10/10/23 11:35	10/10/23 15:42	4'
890-5432-4	BH04	Solid	10/10/23 11:55	10/10/23 15:42	1'

Chain of Custody

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

Work Order No:

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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 21 Riser	Turn Around	
Project Number:	03C1558276	☒ Routine ☐ Rush	
Project Location:	32.35503, -103.84582	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:	tmac7
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
BH01	S	10/10/23	10:00	1'	G	1		X	X	X
BH02	S		11:00	4'						
BH03	S		11:35	4'						
BH04	S		11:55	1'						

890-5432 Chain of Custody

Sample Comments

Incident #: Napp2322742848
Cost Center: 1081711001
Ben Belill: bbelill@ensolum.com

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			10/10 15:42			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5432-1
SDG Number: 03C1558276

Login Number: 5432
List Number: 1
Creator: Bruns, Shannon

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: 890-5432-1
SDG Number: 03C1558276

Login Number: 5432
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/12/23 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	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/18/2023 10:21:28 AM

JOB DESCRIPTION

James Ranch Unit 21 Riser
SDG NUMBER 03C1558276

JOB NUMBER

890-5454-1

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
10/18/2023 10:21:28 AM

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

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Laboratory Job ID: 890-5454-1
SDG: 03C1558276

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Job ID: 890-5454-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5454-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/12/2023 4:14 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 (890-5454-1), FS08 (890-5454-2), SW02 (890-5454-3), FS02 (890-5454-4), FS03 (890-5454-5), FS04 (890-5454-6), FS05 (890-5454-7), FS06 (890-5454-8), FS07 (890-5454-9), FS09 (890-5454-10), FS10 (890-5454-11), FS11 (890-5454-12), SW01 (890-5454-13) and SW03 (890-5454-14).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS02 (890-5454-4) and FS04 (890-5454-6). 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 880-64759 recovered under the lower control limit for Toluene. The samples associated with this CCV were ran within 12 hours of passing CCV; therefore, the data have been reported.

(CCV 880-64759/33)

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 880-64784 and analytical batch 880-64757 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-34436-A-21-A) and (880-34436-A-21-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW02 (890-5454-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-64793 and 880-64793 and analytical batch 880-64900 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.

Case Narrative

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Job ID: 890-5454-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS01

Lab Sample ID: 890-5454-1
Matrix: Solid
Date Collected: 10/11/23 15:00
Date Received: 10/12/23 16:14
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		10/16/23 08:37	10/16/23 13:45	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/16/23 08:37	10/16/23 13:45	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/16/23 08:37	10/16/23 13:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/16/23 08:37	10/16/23 13:45	1
o-Xylene	**0.00354**		0.00201		mg/Kg		10/16/23 08:37	10/16/23 13:45	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/16/23 08:37	10/16/23 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/16/23 08:37*	*10/16/23 13:45*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/16/23 08:37*	*10/16/23 13:45*	*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			10/16/23 13:45	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			10/16/23 19:01	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		10/16/23 09:46	10/16/23 19:01	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		10/16/23 09:46	10/16/23 19:01	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/16/23 09:46	10/16/23 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*10/16/23 09:46*	*10/16/23 19:01*	*1*
o-Terphenyl	*130*		*70 - 130*	*10/16/23 09:46*	*10/16/23 19:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**150**		5.01		mg/Kg			10/16/23 22:36	1

Client Sample ID: FS08

Lab Sample ID: 890-5454-2
Matrix: Solid
Date Collected: 10/11/23 10:25
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 14:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 14:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 14:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/16/23 08:37	10/16/23 14:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 14:05	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/16/23 08:37	10/16/23 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/16/23 08:37*	*10/16/23 14:05*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS08

Lab Sample ID: 890-5454-2
Matrix: Solid
Date Collected: 10/11/23 10:25
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*10/16/23 08:37*	*10/16/23 14:05*	*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			10/16/23 14:05	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			10/16/23 19:23	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		10/16/23 09:46	10/16/23 19:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 09:46	10/16/23 19:23	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 09:46	10/16/23 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/16/23 09:46*	*10/16/23 19:23*	*1*
o-Terphenyl	*83*		*70 - 130*	*10/16/23 09:46*	*10/16/23 19:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**159**		4.97		mg/Kg			10/16/23 22:42	1

Client Sample ID: SW02

Lab Sample ID: 890-5454-3
Matrix: Solid
Date Collected: 10/11/23 10:45
Date Received: 10/12/23 16:14
Sample Depth: 0-1

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		10/16/23 08:37	10/16/23 14:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 14:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 14:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 14:26	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 14:26	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/16/23 08:37*	*10/16/23 14:26*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*10/16/23 08:37*	*10/16/23 14:26*	*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			10/16/23 14:26	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			10/16/23 19:45	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: SW02

Lab Sample ID: 890-5454-3
Matrix: Solid
Date Collected: 10/11/23 10:45
Date Received: 10/12/23 16:14
Sample Depth: 0-1

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		10/16/23 09:46	10/16/23 19:45	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		10/16/23 09:46	10/16/23 19:45	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		10/16/23 09:46	10/16/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*10/16/23 09:46*	*10/16/23 19:45*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*10/16/23 09:46*	*10/16/23 19:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**168**		4.96		mg/Kg			10/16/23 22:49	1

Client Sample ID: FS02

Lab Sample ID: 890-5454-4
Matrix: Solid
Date Collected: 10/12/23 09:20
Date Received: 10/12/23 16:14
Sample Depth: 1

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		10/16/23 08:37	10/16/23 14:46	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 14:46	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 14:46	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/16/23 08:37	10/16/23 14:46	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 14:46	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/16/23 08:37	10/16/23 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/16/23 08:37*	*10/16/23 14:46*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*10/16/23 08:37*	*10/16/23 14:46*	*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			10/16/23 14:46	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			10/16/23 15:49	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		10/16/23 10:59	10/16/23 15:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 15:49	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*10/16/23 10:59*	*10/16/23 15:49*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/16/23 10:59*	*10/16/23 15:49*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS02

Lab Sample ID: 890-5454-4
Matrix: Solid
Date Collected: 10/12/23 09:20
Date Received: 10/12/23 16:14
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	291		5.03		mg/Kg			10/16/23 22:55	1

Client Sample ID: FS03

Lab Sample ID: 890-5454-5
Matrix: Solid
Date Collected: 10/12/23 09:25
Date Received: 10/12/23 16:14
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		10/16/23 08:37	10/16/23 16:13	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 16:13	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 16:13	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 16:13	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 16:13	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/16/23 08:37*	*10/16/23 16:13*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/16/23 08:37*	*10/16/23 16:13*	*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			10/16/23 16:13	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			10/16/23 16:13	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		10/16/23 10:59	10/16/23 16:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 16:13	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*10/16/23 10:59*	*10/16/23 16:13*	*1*
o-Terphenyl	*82*		*70 - 130*	*10/16/23 10:59*	*10/16/23 16:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		5.05		mg/Kg			10/16/23 23:02	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS04

Date Collected: 10/12/23 09:30
Date Received: 10/12/23 16:14
Sample Depth: 1

Lab Sample ID: 890-5454-6
Matrix: Solid

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		10/16/23 08:37	10/16/23 16:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 16:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 16:33	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/16/23 08:37	10/16/23 16:33	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 16:33	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/16/23 08:37	10/16/23 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/16/23 08:37*	*10/16/23 16:33*	*1*
1,4-Difluorobenzene (Surr)	*60*	*S1-*	*70 - 130*	*10/16/23 08:37*	*10/16/23 16:33*	*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			10/16/23 16:33	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			10/16/23 16:37	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	<49.6	U	49.6		mg/Kg		10/16/23 10:59	10/16/23 16:37	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		10/16/23 10:59	10/16/23 16:37	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		10/16/23 10:59	10/16/23 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*10/16/23 10:59*	*10/16/23 16:37*	*1*
o-Terphenyl	*83*		*70 - 130*	*10/16/23 10:59*	*10/16/23 16:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**195**		5.04		mg/Kg			10/16/23 23:09	1

Client Sample ID: FS05

Date Collected: 10/12/23 09:35
Date Received: 10/12/23 16:14
Sample Depth: 1

Lab Sample ID: 890-5454-7
Matrix: Solid

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		10/16/23 08:37	10/16/23 16:54	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/16/23 08:37	10/16/23 16:54	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/16/23 08:37	10/16/23 16:54	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/16/23 08:37	10/16/23 16:54	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/16/23 08:37	10/16/23 16:54	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/16/23 08:37	10/16/23 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*10/16/23 08:37*	*10/16/23 16:54*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS05

Lab Sample ID: 890-5454-7
Matrix: Solid
Date Collected: 10/12/23 09:35
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*10/16/23 08:37*	*10/16/23 16:54*	*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			10/16/23 16:54	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			10/16/23 17:01	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		10/16/23 10:59	10/16/23 17:01	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3	mg/Kg		10/16/23 10:59	10/16/23 17:01	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3	mg/Kg		10/16/23 10:59	10/16/23 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*10/16/23 10:59*	*10/16/23 17:01*	*1*
o-Terphenyl	*79*		*70 - 130*	*10/16/23 10:59*	*10/16/23 17:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**291**		4.98	mg/Kg			10/16/23 23:15	1

Client Sample ID: FS06

Lab Sample ID: 890-5454-8
Matrix: Solid
Date Collected: 10/12/23 09:40
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 17:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/16/23 08:37	10/16/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 17:14	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/16/23 08:37	10/16/23 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:14*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:14*	*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			10/16/23 17:14	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			10/16/23 17:25	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS06

Lab Sample ID: 890-5454-8
Matrix: Solid
Date Collected: 10/12/23 09:40
Date Received: 10/12/23 16:14
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	<50.5	U	50.5		mg/Kg		10/16/23 10:59	10/16/23 17:25	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		10/16/23 10:59	10/16/23 17:25	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/16/23 10:59	10/16/23 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*10/16/23 10:59*	*10/16/23 17:25*	*1*
o-Terphenyl	*82*		*70 - 130*	*10/16/23 10:59*	*10/16/23 17:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**285**		5.03		mg/Kg			10/17/23 20:45	1

Client Sample ID: FS07

Lab Sample ID: 890-5454-9
Matrix: Solid
Date Collected: 10/12/23 10:15
Date Received: 10/12/23 16:14
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		10/16/23 08:37	10/16/23 17:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 17:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:35*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:35*	*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			10/16/23 17:35	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			10/16/23 18:11	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		10/16/23 10:59	10/16/23 18:11	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		10/16/23 10:59	10/16/23 18:11	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/16/23 10:59	10/16/23 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:11*	*1*
o-Terphenyl	*87*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:11*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS07

Lab Sample ID: 890-5454-9
Matrix: Solid
Date Collected: 10/12/23 10:15
Date Received: 10/12/23 16:14
Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	329		5.03		mg/Kg			10/17/23 20:52	1

Client Sample ID: FS09

Lab Sample ID: 890-5454-10
Matrix: Solid
Date Collected: 10/12/23 14:05
Date Received: 10/12/23 16:14
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		10/16/23 08:37	10/16/23 17:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 17:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 17:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:56*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/16/23 08:37*	*10/16/23 17:56*	*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			10/16/23 17:56	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			10/16/23 18:35	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		10/16/23 10:59	10/16/23 18:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 10:59	10/16/23 18:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 10:59	10/16/23 18:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:35*	*1*
o-Terphenyl	*79*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	105		5.05		mg/Kg			10/17/23 20:58	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS10

Lab Sample ID: 890-5454-11
Matrix: Solid
Date Collected: 10/12/23 14:10
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 18:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 18:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 18:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/16/23 08:37	10/16/23 18:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 18:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/16/23 08:37	10/16/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:16*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:16*	*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			10/16/23 18:16	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			10/16/23 18:59	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		10/16/23 10:59	10/16/23 18:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 18:59	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:59*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/16/23 10:59*	*10/16/23 18:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**112**		5.02		mg/Kg			10/17/23 21:05	1

Client Sample ID: FS11

Lab Sample ID: 890-5454-12
Matrix: Solid
Date Collected: 10/12/23 14:15
Date Received: 10/12/23 16:14
Sample Depth: 1

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		10/16/23 08:37	10/16/23 18:37	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 18:37	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 18:37	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/16/23 08:37	10/16/23 18:37	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/16/23 08:37	10/16/23 18:37	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/16/23 08:37	10/16/23 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:37*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS11

Lab Sample ID: 890-5454-12
Matrix: Solid
Date Collected: 10/12/23 14:15
Date Received: 10/12/23 16:14
Sample Depth: 1

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:37*	*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			10/16/23 18:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			10/16/23 19:22	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		10/16/23 10:59	10/16/23 19:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/16/23 10:59	10/16/23 19:22	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/16/23 10:59	10/16/23 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*73*		*70 - 130*	*10/16/23 10:59*	*10/16/23 19:22*	*1*
o-Terphenyl	*79*		*70 - 130*	*10/16/23 10:59*	*10/16/23 19:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**149**		4.98	mg/Kg			10/17/23 21:12	1

Client Sample ID: SW01

Lab Sample ID: 890-5454-13
Matrix: Solid
Date Collected: 10/12/23 10:25
Date Received: 10/12/23 16:14
Sample Depth: 0-1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 18:57	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 18:57	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 18:57	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/16/23 08:37	10/16/23 18:57	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/16/23 08:37	10/16/23 18:57	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/16/23 08:37	10/16/23 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:57*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*10/16/23 08:37*	*10/16/23 18:57*	*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			10/16/23 18:57	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			10/16/23 19:45	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: SW01

Lab Sample ID: 890-5454-13
Matrix: Solid
Date Collected: 10/12/23 10:25
Date Received: 10/12/23 16:14
Sample Depth: 0-1

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		10/16/23 10:59	10/16/23 19:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 10:59	10/16/23 19:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 10:59	10/16/23 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/16/23 10:59*	*10/16/23 19:45*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/16/23 10:59*	*10/16/23 19:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**119**		5.00		mg/Kg			10/17/23 21:18	1

Client Sample ID: SW03

Lab Sample ID: 890-5454-14
Matrix: Solid
Date Collected: 10/12/23 14:25
Date Received: 10/12/23 16:14
Sample Depth: 0-1

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		10/16/23 08:37	10/16/23 19:18	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 19:18	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 19:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 19:18	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 08:37	10/16/23 19:18	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 08:37	10/16/23 19:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*10/16/23 08:37*	*10/16/23 19:18*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*10/16/23 08:37*	*10/16/23 19:18*	*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			10/16/23 19:18	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			10/16/23 20:09	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		10/16/23 10:59	10/16/23 20:09	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		10/16/23 10:59	10/16/23 20:09	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/16/23 10:59	10/16/23 20:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:09*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:09*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: SW03

Date Collected: 10/12/23 14:25
Date Received: 10/12/23 16:14
Sample Depth: 0-1

Lab Sample ID: 890-5454-14

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.7		5.00		mg/Kg			10/17/23 21:25	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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)										
890-5454-1	FS01	95	80										
890-5454-2	FS08	92	71										
890-5454-3	SW02	93	79										
890-5454-4	FS02	92	65 S1-										
890-5454-5	FS03	90	80										
890-5454-6	FS04	98	60 S1-										
890-5454-7	FS05	109	118										
890-5454-8	FS06	82	96										
890-5454-9	FS07	82	94										
890-5454-10	FS09	89	84										
890-5454-11	FS10	82	96										
890-5454-12	FS11	80	72										
890-5454-13	SW01	97	74										
890-5454-14	SW03	86	87										
890-5455-A-1-A MS	Matrix Spike	119	94										
890-5455-A-1-B MSD	Matrix Spike Duplicate	113	113										
LCS 880-64769/1-A	Lab Control Sample	119	112										
LCSD 880-64769/2-A	Lab Control Sample Dup	112	114										
MB 880-64769/5-A	Method Blank	78	90										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
880-34436-A-21-B MS	Matrix Spike	128	115										
880-34436-A-21-C MSD	Matrix Spike Duplicate	136 S1+	121										
890-5454-1	FS01	130	130										
890-5454-2	FS08	84	83										
890-5454-3	SW02	132 S1+	131 S1+										
890-5454-4	FS02	74	80										
890-5454-5	FS03	75	82										
890-5454-6	FS04	77	83										
890-5454-7	FS05	71	79										
890-5454-8	FS06	75	82										
890-5454-9	FS07	82	87										
890-5454-10	FS09	75	79										
890-5454-11	FS10	77	80										
890-5454-12	FS11	73	79										
890-5454-13	SW01	88	91										
890-5454-14	SW03	75	80										
890-5457-A-1-F MS	Matrix Spike	82	72										
890-5457-A-1-G MSD	Matrix Spike Duplicate	82	71										
LCS 880-64784/2-A	Lab Control Sample	104	102										
LCS 880-64788/2-A	Lab Control Sample	97	99										

Surrogate Summary

Client: Ensolum
Job ID: 890-5454-1
Project/Site: James Ranch Unit 21 Riser
SDG: 03C1558276

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

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
LCSD 880-64784/3-A	Lab Control Sample Dup	121	119								
LCSD 880-64788/3-A	Lab Control Sample Dup	99	93								
MB 880-64784/1-A	Method Blank	67 S1-	71								
MB 880-64788/1-A	Method Blank	93	98								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-64769/5-A
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64769

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 11:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 11:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 11:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/16/23 08:37	10/16/23 11:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 08:37	10/16/23 11:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/16/23 08:37	10/16/23 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*10/16/23 08:37*	*10/16/23 11:20*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*10/16/23 08:37*	*10/16/23 11:20*	*1*

Lab Sample ID: LCS 880-64769/1-A
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64769

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09322		mg/Kg		93	70 - 130		
Toluene			0.100	0.09263		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.1010		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.2221		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1104		mg/Kg		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: LCSD 880-64769/2-A
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64769

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09816		mg/Kg		98	70 - 130	5	35
Toluene			0.100	0.09206		mg/Kg		92	70 - 130	1	35
Ethylbenzene			0.100	0.09430		mg/Kg		94	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2044		mg/Kg		102	70 - 130	8	35
o-Xylene			0.100	0.1021		mg/Kg		102	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

Lab Sample ID: 890-5455-A-1-A MS
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64769

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1041		mg/Kg		104	70 - 130		
Toluene	<0.00201	U	0.0998	0.1002		mg/Kg		100	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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

Lab Sample ID: 890-5455-A-1-A MS
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64769

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1051		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2264		mg/Kg		113	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1122		mg/Kg		112	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-5455-A-1-B MSD
Matrix: Solid
Analysis Batch: 64759

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64769

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.08916		mg/Kg		89	70 - 130	15	35
Toluene	<0.00201	U	0.100	0.08403		mg/Kg		84	70 - 130	18	35
Ethylbenzene	<0.00201	U	0.100	0.08680		mg/Kg		87	70 - 130	19	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1859		mg/Kg		93	70 - 130	20	35
o-Xylene	<0.00201	U	0.100	0.09348		mg/Kg		93	70 - 130	18	35

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

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

Lab Sample ID: MB 880-64784/1-A
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64784

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		10/16/23 08:00	10/16/23 09:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 09:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 09:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*67*	*S1-*	*70 - 130*	*10/16/23 08:00*	*10/16/23 09:06*	*1*
o-Terphenyl	*71*		*70 - 130*	*10/16/23 08:00*	*10/16/23 09:06*	*1*

Lab Sample ID: LCS 880-64784/2-A
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64784

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	849.3		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)			1000	828.2		mg/Kg		83	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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

Lab Sample ID: LCS 880-64784/2-A
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64784

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

Lab Sample ID: LCSD 880-64784/3-A
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64784

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	915.9		mg/Kg		92	70 - 130	8	20
Diesel Range Organics (Over C10-C28)			1000	932.8		mg/Kg		93	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	121		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: 880-34436-A-21-B MS
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64784

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	993	1229		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	993	1181		mg/Kg		115	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	115		70 - 130

Lab Sample ID: 880-34436-A-21-C MSD
Matrix: Solid
Analysis Batch: 64757

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64784

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	993	1179		mg/Kg		117	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	993	1255		mg/Kg		122	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	136	S1+	70 - 130
o-Terphenyl	121		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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

Lab Sample ID: MB 880-64788/1-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64788

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		10/16/23 08:00	10/16/23 08:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 08:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*10/16/23 08:00*	*10/16/23 08:49*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/16/23 08:00*	*10/16/23 08:49*	*1*

Lab Sample ID: LCS 880-64788/2-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64788

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	881.8		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	915.4		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: LCSD 880-64788/3-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64788

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	866.4		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	877.5		mg/Kg		88	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: 890-5457-A-1-F MS
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64788

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	991	734.8		mg/Kg		72	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	991	703.9		mg/Kg		71	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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

Lab Sample ID: 890-5457-A-1-F MS
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64788

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*72*		*70 - 130*

Lab Sample ID: 890-5457-A-1-G MSD
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64788

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	991	733.4		mg/Kg		71	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	991	712.2		mg/Kg		72	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*71*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-64791/1-A
Matrix: Solid
Analysis Batch: 64856

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			10/16/23 19:57	1

Lab Sample ID: LCS 880-64791/2-A
Matrix: Solid
Analysis Batch: 64856

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	246.1		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-64791/3-A
Matrix: Solid
Analysis Batch: 64856

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	246.3		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 890-5453-A-5-B MS
Matrix: Solid
Analysis Batch: 64856

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3720		2500	6184		mg/Kg		99	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-5453-A-5-C MSD
Matrix: Solid
Analysis Batch: 64856

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3720		2500	6188		mg/Kg		99	90 - 110	0	20

Lab Sample ID: MB 880-64793/1-A
Matrix: Solid
Analysis Batch: 64900

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			10/17/23 18:05	1

Lab Sample ID: LCS 880-64793/2-A
Matrix: Solid
Analysis Batch: 64900

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	231.8		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-64793/3-A
Matrix: Solid
Analysis Batch: 64900

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	231.8		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 880-34434-A-1-B MS
Matrix: Solid
Analysis Batch: 64900

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	384	F1	251	604.7	F1	mg/Kg		88	90 - 110		

Lab Sample ID: 880-34434-A-1-C MSD
Matrix: Solid
Analysis Batch: 64900

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	384	F1	251	605.7	F1	mg/Kg		88	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

GC VOA

Analysis Batch: 64759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	8021B	64769
890-5454-2	FS08	Total/NA	Solid	8021B	64769
890-5454-3	SW02	Total/NA	Solid	8021B	64769
890-5454-4	FS02	Total/NA	Solid	8021B	64769
890-5454-5	FS03	Total/NA	Solid	8021B	64769
890-5454-6	FS04	Total/NA	Solid	8021B	64769
890-5454-7	FS05	Total/NA	Solid	8021B	64769
890-5454-8	FS06	Total/NA	Solid	8021B	64769
890-5454-9	FS07	Total/NA	Solid	8021B	64769
890-5454-10	FS09	Total/NA	Solid	8021B	64769
890-5454-11	FS10	Total/NA	Solid	8021B	64769
890-5454-12	FS11	Total/NA	Solid	8021B	64769
890-5454-13	SW01	Total/NA	Solid	8021B	64769
890-5454-14	SW03	Total/NA	Solid	8021B	64769
MB 880-64769/5-A	Method Blank	Total/NA	Solid	8021B	64769
LCS 880-64769/1-A	Lab Control Sample	Total/NA	Solid	8021B	64769
LCSD 880-64769/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	64769
890-5455-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	64769
890-5455-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	64769

Prep Batch: 64769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	5035	
890-5454-2	FS08	Total/NA	Solid	5035	
890-5454-3	SW02	Total/NA	Solid	5035	
890-5454-4	FS02	Total/NA	Solid	5035	
890-5454-5	FS03	Total/NA	Solid	5035	
890-5454-6	FS04	Total/NA	Solid	5035	
890-5454-7	FS05	Total/NA	Solid	5035	
890-5454-8	FS06	Total/NA	Solid	5035	
890-5454-9	FS07	Total/NA	Solid	5035	
890-5454-10	FS09	Total/NA	Solid	5035	
890-5454-11	FS10	Total/NA	Solid	5035	
890-5454-12	FS11	Total/NA	Solid	5035	
890-5454-13	SW01	Total/NA	Solid	5035	
890-5454-14	SW03	Total/NA	Solid	5035	
MB 880-64769/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-64769/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-64769/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5455-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-5455-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 64831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	Total BTEX	
890-5454-2	FS08	Total/NA	Solid	Total BTEX	
890-5454-3	SW02	Total/NA	Solid	Total BTEX	
890-5454-4	FS02	Total/NA	Solid	Total BTEX	
890-5454-5	FS03	Total/NA	Solid	Total BTEX	
890-5454-6	FS04	Total/NA	Solid	Total BTEX	
890-5454-7	FS05	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

GC VOA (Continued)

Analysis Batch: 64831 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-8	FS06	Total/NA	Solid	Total BTEX	
890-5454-9	FS07	Total/NA	Solid	Total BTEX	
890-5454-10	FS09	Total/NA	Solid	Total BTEX	
890-5454-11	FS10	Total/NA	Solid	Total BTEX	
890-5454-12	FS11	Total/NA	Solid	Total BTEX	
890-5454-13	SW01	Total/NA	Solid	Total BTEX	
890-5454-14	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 64753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-4	FS02	Total/NA	Solid	8015B NM	64788
890-5454-5	FS03	Total/NA	Solid	8015B NM	64788
890-5454-6	FS04	Total/NA	Solid	8015B NM	64788
890-5454-7	FS05	Total/NA	Solid	8015B NM	64788
890-5454-8	FS06	Total/NA	Solid	8015B NM	64788
890-5454-9	FS07	Total/NA	Solid	8015B NM	64788
890-5454-10	FS09	Total/NA	Solid	8015B NM	64788
890-5454-11	FS10	Total/NA	Solid	8015B NM	64788
890-5454-12	FS11	Total/NA	Solid	8015B NM	64788
890-5454-13	SW01	Total/NA	Solid	8015B NM	64788
890-5454-14	SW03	Total/NA	Solid	8015B NM	64788
MB 880-64788/1-A	Method Blank	Total/NA	Solid	8015B NM	64788
LCS 880-64788/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64788
LCSD 880-64788/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64788
890-5457-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	64788
890-5457-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	64788

Analysis Batch: 64757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	8015B NM	64784
890-5454-2	FS08	Total/NA	Solid	8015B NM	64784
890-5454-3	SW02	Total/NA	Solid	8015B NM	64784
MB 880-64784/1-A	Method Blank	Total/NA	Solid	8015B NM	64784
LCS 880-64784/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64784
LCSD 880-64784/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64784
880-34436-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	64784
880-34436-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	64784

Prep Batch: 64784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	8015NM Prep	
890-5454-2	FS08	Total/NA	Solid	8015NM Prep	
890-5454-3	SW02	Total/NA	Solid	8015NM Prep	
MB 880-64784/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64784/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64784/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-34436-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-34436-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

GC Semi VOA

Prep Batch: 64788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-4	FS02	Total/NA	Solid	8015NM Prep	
890-5454-5	FS03	Total/NA	Solid	8015NM Prep	
890-5454-6	FS04	Total/NA	Solid	8015NM Prep	
890-5454-7	FS05	Total/NA	Solid	8015NM Prep	
890-5454-8	FS06	Total/NA	Solid	8015NM Prep	
890-5454-9	FS07	Total/NA	Solid	8015NM Prep	
890-5454-10	FS09	Total/NA	Solid	8015NM Prep	
890-5454-11	FS10	Total/NA	Solid	8015NM Prep	
890-5454-12	FS11	Total/NA	Solid	8015NM Prep	
890-5454-13	SW01	Total/NA	Solid	8015NM Prep	
890-5454-14	SW03	Total/NA	Solid	8015NM Prep	
MB 880-64788/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64788/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64788/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5457-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5457-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 64872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Total/NA	Solid	8015 NM	
890-5454-2	FS08	Total/NA	Solid	8015 NM	
890-5454-3	SW02	Total/NA	Solid	8015 NM	
890-5454-4	FS02	Total/NA	Solid	8015 NM	
890-5454-5	FS03	Total/NA	Solid	8015 NM	
890-5454-6	FS04	Total/NA	Solid	8015 NM	
890-5454-7	FS05	Total/NA	Solid	8015 NM	
890-5454-8	FS06	Total/NA	Solid	8015 NM	
890-5454-9	FS07	Total/NA	Solid	8015 NM	
890-5454-10	FS09	Total/NA	Solid	8015 NM	
890-5454-11	FS10	Total/NA	Solid	8015 NM	
890-5454-12	FS11	Total/NA	Solid	8015 NM	
890-5454-13	SW01	Total/NA	Solid	8015 NM	
890-5454-14	SW03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 64791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Soluble	Solid	DI Leach	
890-5454-2	FS08	Soluble	Solid	DI Leach	
890-5454-3	SW02	Soluble	Solid	DI Leach	
890-5454-4	FS02	Soluble	Solid	DI Leach	
890-5454-5	FS03	Soluble	Solid	DI Leach	
890-5454-6	FS04	Soluble	Solid	DI Leach	
890-5454-7	FS05	Soluble	Solid	DI Leach	
MB 880-64791/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64791/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64791/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5453-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-5453-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

HPLC/IC

Leach Batch: 64793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-8	FS06	Soluble	Solid	DI Leach	
890-5454-9	FS07	Soluble	Solid	DI Leach	
890-5454-10	FS09	Soluble	Solid	DI Leach	
890-5454-11	FS10	Soluble	Solid	DI Leach	
890-5454-12	FS11	Soluble	Solid	DI Leach	
890-5454-13	SW01	Soluble	Solid	DI Leach	
890-5454-14	SW03	Soluble	Solid	DI Leach	
MB 880-64793/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64793/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64793/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-34434-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-34434-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 64856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-1	FS01	Soluble	Solid	300.0	64791
890-5454-2	FS08	Soluble	Solid	300.0	64791
890-5454-3	SW02	Soluble	Solid	300.0	64791
890-5454-4	FS02	Soluble	Solid	300.0	64791
890-5454-5	FS03	Soluble	Solid	300.0	64791
890-5454-6	FS04	Soluble	Solid	300.0	64791
890-5454-7	FS05	Soluble	Solid	300.0	64791
MB 880-64791/1-A	Method Blank	Soluble	Solid	300.0	64791
LCS 880-64791/2-A	Lab Control Sample	Soluble	Solid	300.0	64791
LCSD 880-64791/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64791
890-5453-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	64791
890-5453-A-5-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	64791

Analysis Batch: 64900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5454-8	FS06	Soluble	Solid	300.0	64793
890-5454-9	FS07	Soluble	Solid	300.0	64793
890-5454-10	FS09	Soluble	Solid	300.0	64793
890-5454-11	FS10	Soluble	Solid	300.0	64793
890-5454-12	FS11	Soluble	Solid	300.0	64793
890-5454-13	SW01	Soluble	Solid	300.0	64793
890-5454-14	SW03	Soluble	Solid	300.0	64793
MB 880-64793/1-A	Method Blank	Soluble	Solid	300.0	64793
LCS 880-64793/2-A	Lab Control Sample	Soluble	Solid	300.0	64793
LCSD 880-64793/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64793
880-34434-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	64793
880-34434-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	64793

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS01
Date Collected: 10/11/23 15:00
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-1
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			4.97 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 13:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 13:45	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 19:01	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64784	10/16/23 09:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64757	10/16/23 19:01	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 22:36	CH	EET MID

Client Sample ID: FS08
Date Collected: 10/11/23 10:25
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-2
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			4.99 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 14:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 14:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 19:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	64784	10/16/23 09:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64757	10/16/23 19:23	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 22:42	CH	EET MID

Client Sample ID: SW02
Date Collected: 10/11/23 10:45
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 14:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 14:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 19:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	64784	10/16/23 09:46	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64757	10/16/23 19:45	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 22:49	CH	EET MID

Client Sample ID: FS02
Date Collected: 10/12/23 09:20
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-4
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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 14:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 14:46	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS02
Date Collected: 10/12/23 09:20
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-4
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			64872	10/16/23 15:49	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 15:49	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 22:55	CH	EET MID

Client Sample ID: FS03
Date Collected: 10/12/23 09:25
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 16:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 16:13	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 16:13	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 16:13	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 23:02	CH	EET MID

Client Sample ID: FS04
Date Collected: 10/12/23 09:30
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 16:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 16:33	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 16:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.08 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 16:37	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 23:09	CH	EET MID

Client Sample ID: FS05
Date Collected: 10/12/23 09:35
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-7
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			4.97 g	5 mL	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 16:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 16:54	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 17:01	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 17:01	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS05

Lab Sample ID: 890-5454-7

Date Collected: 10/12/23 09:35
Matrix: Solid
Date Received: 10/12/23 16:14

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	64791	10/16/23 11:44	SMC	EET MID
Soluble	Analysis	300.0		1			64856	10/16/23 23:15	CH	EET MID

Client Sample ID: FS06

Lab Sample ID: 890-5454-8

Date Collected: 10/12/23 09:40
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 17:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 17:14	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 17:25	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 17:25	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 20:45	CH	EET MID

Client Sample ID: FS07

Lab Sample ID: 890-5454-9

Date Collected: 10/12/23 10:15
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 17:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 17:35	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 18:11	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 18:11	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 20:52	CH	EET MID

Client Sample ID: FS09

Lab Sample ID: 890-5454-10

Date Collected: 10/12/23 14:05
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 17:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 17:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 18:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 18:35	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 20:58	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: FS10

Lab Sample ID: 890-5454-11

Date Collected: 10/12/23 14:10
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 18:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 18:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 18:59	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 21:05	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-5454-12

Date Collected: 10/12/23 14:15
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 18:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 18:37	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 19:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 19:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 21:12	CH	EET MID

Client Sample ID: SW01

Lab Sample ID: 890-5454-13

Date Collected: 10/12/23 10:25
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 18:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 18:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			64872	10/16/23 19:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 19:45	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 21:18	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-5454-14

Date Collected: 10/12/23 14:25
Matrix: Solid
Date Received: 10/12/23 16:14

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	64769	10/16/23 08:37	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64759	10/16/23 19:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			64831	10/16/23 19:18	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Client Sample ID: SW03

Date Collected: 10/12/23 14:25
Date Received: 10/12/23 16:14

Lab Sample ID: 890-5454-14

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			64872	10/16/23 20:09	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 20:09	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64793	10/16/23 11:48	SMC	EET MID
Soluble	Analysis	300.0		1			64900	10/17/23 21:25	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 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

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 21 Riser

Job ID: 890-5454-1
SDG: 03C1558276

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5454-1	FS01	Solid	10/11/23 15:00	10/12/23 16:14	1
890-5454-2	FS08	Solid	10/11/23 10:25	10/12/23 16:14	1
890-5454-3	SW02	Solid	10/11/23 10:45	10/12/23 16:14	0-1
890-5454-4	FS02	Solid	10/12/23 09:20	10/12/23 16:14	1
890-5454-5	FS03	Solid	10/12/23 09:25	10/12/23 16:14	1
890-5454-6	FS04	Solid	10/12/23 09:30	10/12/23 16:14	1
890-5454-7	FS05	Solid	10/12/23 09:35	10/12/23 16:14	1
890-5454-8	FS06	Solid	10/12/23 09:40	10/12/23 16:14	1
890-5454-9	FS07	Solid	10/12/23 10:15	10/12/23 16:14	1
890-5454-10	FS09	Solid	10/12/23 14:05	10/12/23 16:14	1
890-5454-11	FS10	Solid	10/12/23 14:10	10/12/23 16:14	1
890-5454-12	FS11	Solid	10/12/23 14:15	10/12/23 16:14	1
890-5454-13	SW01	Solid	10/12/23 10:25	10/12/23 16:14	0-1
890-5454-14	SW03	Solid	10/12/23 14:25	10/12/23 16:14	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:

www.xenco.com Page 1 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 21 Riser	Turn Around	
Project Number:	03C15582716	☒ Routine ☐ Rush	
Project Location:	32.35505, -103.84582	Due Date:	5 days
Sampler's Name:	Mariaha 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:	[illegible]
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

890-5454 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
FS01	S	10/11/23	15:00	1'	C	1		X	X	X
FS08		10/11/23	10:25	1'						
SW02		10/11/23	10:45	0-1'						
FS02		10/12/23	9:20	1'						
FS03			9:25	1'						
FS04			9:30	1						
FS05			9:35							
FS06			9:40							
FS07			10:15							
FS09			14:05							

Preservative Codes

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

Sample Comments

incident #:
NAPP2322742848
Cost center:
1081711001
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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	10/12 16:14	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 21 RISER	Turn Around	
Project Number:	03C15582716	☒ Routine ☐ Rush	
Project Location:	32.35505, -103.84582	Due Date:	5 days
Sampler's Name:	Mariaha 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
FS10	S	10/12/23	14:10	1'	C	1				
FS11			14:15	1'						
SW01			10:25	0-1'						
SW03			14:25	0-1'						

MB

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident #:
Napp2322742848
Cost Center:
1081711001
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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			10/12 16:1			
3						
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5454-1
SDG Number: 03C1558276

Login Number: 5454
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.	N/A	Refer to Job Narrative for details.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5454-1
SDG Number: 03C1558276

Login Number: 5454
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/16/23 08:35 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 10/19/2023 3:09:34 PM

JOB DESCRIPTION

James Ranch Unit 21 Riser
SDG NUMBER 03C1558276

JOB NUMBER

890-5456-1

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
10/19/2023 3:09:34 PM

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

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Laboratory Job ID: 890-5456-1
SDG: 03C1558276

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Job ID: 890-5456-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-5456-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 10/13/2023 1:42 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 5.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS12 (890-5456-1), FS13 (890-5456-2), FS14 (890-5456-3), FS15 (890-5456-4), SW04 (890-5456-5), SW05 (890-5456-6), SW06 (890-5456-7) and SW07 (890-5456-8).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS12 (890-5456-1), FS14 (890-5456-3) and SW04 (890-5456-5). 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: SW05 (890-5456-6), SW06 (890-5456-7) and SW07 (890-5456-8). 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 880-64934 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 880-64934/33).

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 880-64861 and analytical batch 880-64850 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-64861 and analytical batch 880-64850 contained Gasoline Range Organics (GRO)-C6-C10 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.

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-64795 and analytical batch 880-64889 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.

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS12

Date Collected: 10/13/23 06:40
Date Received: 10/13/23 13:42
Sample Depth: 4'

Lab Sample ID: 890-5456-1
Matrix: Solid

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		10/16/23 10:08	10/18/23 14:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/16/23 10:08	10/18/23 14:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/16/23 10:08	10/18/23 14:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/16/23 10:08	10/18/23 14:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/16/23 10:08	10/18/23 14:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/16/23 10:08	10/18/23 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*10/16/23 10:08*	*10/18/23 14:31*	*1*
1,4-Difluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 14:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/18/23 14:31	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			10/16/23 20:33	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		10/16/23 10:59	10/16/23 20:33	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		10/16/23 10:59	10/16/23 20:33	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/16/23 10:59	10/16/23 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:33*	*1*
o-Terphenyl	*87*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**455**		5.00		mg/Kg			10/18/23 00:18	1

Client Sample ID: FS13

Date Collected: 10/13/23 07:40
Date Received: 10/13/23 13:42
Sample Depth: 4'

Lab Sample ID: 890-5456-2
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		10/16/23 10:08	10/18/23 14:51	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 14:51	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 14:51	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 14:51	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 14:51	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*10/16/23 10:08*	*10/18/23 14:51*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS13

Lab Sample ID: 890-5456-2
Matrix: Solid
Date Collected: 10/13/23 07:40
Date Received: 10/13/23 13:42
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*10/16/23 10:08*	*10/18/23 14:51*	*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			10/18/23 14:51	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			10/16/23 20:56	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		10/16/23 10:59	10/16/23 20:56	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		10/16/23 10:59	10/16/23 20:56	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		10/16/23 10:59	10/16/23 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:56*	*1*
o-Terphenyl	*88*		*70 - 130*	*10/16/23 10:59*	*10/16/23 20:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		4.99	mg/Kg			10/18/23 00:38	1

Client Sample ID: FS14

Lab Sample ID: 890-5456-3
Matrix: Solid
Date Collected: 10/13/23 11:00
Date Received: 10/13/23 13:42
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		10/16/23 10:08	10/18/23 15:12	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/16/23 10:08	10/18/23 15:12	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/16/23 10:08	10/18/23 15:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/16/23 10:08	10/18/23 15:12	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/16/23 10:08	10/18/23 15:12	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/16/23 10:08	10/18/23 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/16/23 10:08*	*10/18/23 15:12*	*1*
1,4-Difluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 15:12*	*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			10/18/23 15:12	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			10/16/23 21:20	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS14

Lab Sample ID: 890-5456-3
Matrix: Solid
Date Collected: 10/13/23 11:00
Date Received: 10/13/23 13:42
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	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 21:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 21:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/16/23 10:59	10/16/23 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*10/16/23 10:59*	*10/16/23 21:20*	*1*
o-Terphenyl	*86*		*70 - 130*	*10/16/23 10:59*	*10/16/23 21:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**217**		4.98		mg/Kg			10/18/23 00:45	1

Client Sample ID: FS15

Lab Sample ID: 890-5456-4
Matrix: Solid
Date Collected: 10/13/23 11:45
Date Received: 10/13/23 13:42
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		10/16/23 10:08	10/18/23 15:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/16/23 10:08	10/18/23 15:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:32	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/16/23 10:08	10/18/23 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*10/16/23 10:08*	*10/18/23 15:32*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*10/16/23 10:08*	*10/18/23 15:32*	*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			10/18/23 15:32	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			10/16/23 21:45	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		10/16/23 10:59	10/16/23 21:45	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		10/16/23 10:59	10/16/23 21:45	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		10/16/23 10:59	10/16/23 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/16/23 10:59*	*10/16/23 21:45*	*1*
o-Terphenyl	*83*		*70 - 130*	*10/16/23 10:59*	*10/16/23 21:45*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS15

Lab Sample ID: 890-5456-4
Matrix: Solid
Date Collected: 10/13/23 11:45
Date Received: 10/13/23 13:42
Sample Depth: 4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		5.04		mg/Kg			10/18/23 00:52	1

Client Sample ID: SW04

Lab Sample ID: 890-5456-5
Matrix: Solid
Date Collected: 10/13/23 11:05
Date Received: 10/13/23 13:42
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		10/16/23 10:08	10/18/23 15:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:53	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/16/23 10:08	10/18/23 15:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 15:53	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/16/23 10:08	10/18/23 15:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/16/23 10:08*	*10/18/23 15:53*	*1*
1,4-Difluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 15:53*	*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			10/18/23 15:53	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			10/17/23 21:17	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		10/17/23 08:47	10/17/23 21:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/17/23 08:47	10/17/23 21:17	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/17/23 08:47	10/17/23 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*10/17/23 08:47*	*10/17/23 21:17*	*1*
o-Terphenyl	*105*		*70 - 130*	*10/17/23 08:47*	*10/17/23 21:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	275		5.02		mg/Kg			10/18/23 00:58	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: SW05

Lab Sample ID: 890-5456-6
Matrix: Solid
Date Collected: 10/13/23 11:25
Date Received: 10/13/23 13:42
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		10/16/23 10:08	10/18/23 17:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 17:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 17:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 17:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 17:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/16/23 10:08*	*10/18/23 17:41*	*1*
1,4-Difluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 17:41*	*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			10/18/23 17:41	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			10/17/23 22:23	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		10/17/23 08:47	10/17/23 22:23	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		10/17/23 08:47	10/17/23 22:23	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		10/17/23 08:47	10/17/23 22:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*10/17/23 08:47*	*10/17/23 22:23*	*1*
o-Terphenyl	*115*		*70 - 130*	*10/17/23 08:47*	*10/17/23 22:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**199**		5.00		mg/Kg			10/18/23 01:05	1

Client Sample ID: SW06

Lab Sample ID: 890-5456-7
Matrix: Solid
Date Collected: 10/13/23 11:35
Date Received: 10/13/23 13:42
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		10/16/23 10:08	10/18/23 18:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 18:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 18:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 18:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/16/23 10:08	10/18/23 18:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/16/23 10:08	10/18/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/16/23 10:08*	*10/18/23 18:01*	*1*

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: SW06

Date Collected: 10/13/23 11:35
Date Received: 10/13/23 13:42
Sample Depth: 0-4'

Lab Sample ID: 890-5456-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 18:01*	*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			10/18/23 18:01	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			10/17/23 22:45	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		10/17/23 08:47	10/17/23 22:45	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		10/17/23 08:47	10/17/23 22:45	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		10/17/23 08:47	10/17/23 22:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*10/17/23 08:47*	*10/17/23 22:45*	*1*
o-Terphenyl	*124*		*70 - 130*	*10/17/23 08:47*	*10/17/23 22:45*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**370**		4.97		mg/Kg			10/18/23 01:11	1

Client Sample ID: SW07

Date Collected: 10/13/23 11:40
Date Received: 10/13/23 13:42
Sample Depth: 0-4'

Lab Sample ID: 890-5456-8
Matrix: Solid

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		10/16/23 10:08	10/18/23 18:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 18:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 18:22	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/16/23 10:08	10/18/23 18:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 18:22	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/16/23 10:08	10/18/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/16/23 10:08*	*10/18/23 18:22*	*1*
1,4-Difluorobenzene (Surr)	*61*	*S1-*	*70 - 130*	*10/16/23 10:08*	*10/18/23 18:22*	*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			10/18/23 18:22	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			10/17/23 23:07	1

Client Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: SW07

Date Collected: 10/13/23 11:40
Date Received: 10/13/23 13:42
Sample Depth: 0-4'

Lab Sample ID: 890-5456-8

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	<50.1	U	50.1		mg/Kg		10/17/23 08:47	10/17/23 23:07	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		10/17/23 08:47	10/17/23 23:07	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		10/17/23 08:47	10/17/23 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*10/17/23 08:47*	*10/17/23 23:07*	*1*
o-Terphenyl	*113*		*70 - 130*	*10/17/23 08:47*	*10/17/23 23:07*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**244**		4.95		mg/Kg			10/18/23 01:18	1

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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)
890-5456-1	FS12	85	69 S1-
890-5456-1 MS	FS12	127	110
890-5456-1 MSD	FS12	125	107
890-5456-2	FS13	85	83
890-5456-3	FS14	90	62 S1-
890-5456-4	FS15	86	73
890-5456-5	SW04	97	65 S1-
890-5456-6	SW05	92	66 S1-
890-5456-7	SW06	93	67 S1-
890-5456-8	SW07	90	61 S1-
LCS 880-64787/1-A	Lab Control Sample	122	106
LCSD 880-64787/2-A	Lab Control Sample Dup	124	112
MB 880-64787/5-A	Method Blank	77	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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5456-1	FS12	84	87
890-5456-2	FS13	85	88
890-5456-3	FS14	84	86
890-5456-4	FS15	79	83
890-5456-5	SW04	100	105
890-5456-5 MS	SW04	117	111
890-5456-5 MSD	SW04	116	108
890-5456-6	SW05	108	115
890-5456-7	SW06	118	124
890-5456-8	SW07	104	113
890-5457-A-1-F MS	Matrix Spike	82	72
890-5457-A-1-G MSD	Matrix Spike Duplicate	82	71
LCS 880-64788/2-A	Lab Control Sample	97	99
LCS 880-64861/2-A	Lab Control Sample	85	87
LCSD 880-64788/3-A	Lab Control Sample Dup	99	93
LCSD 880-64861/3-A	Lab Control Sample Dup	85	87
MB 880-64788/1-A	Method Blank	93	98
MB 880-64861/1-A	Method Blank	143 S1+	153 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-64787/5-A
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64787

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 11:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 11:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 11:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/16/23 10:08	10/18/23 11:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/16/23 10:08	10/18/23 11:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/16/23 10:08	10/18/23 11:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*10/16/23 10:08*	*10/18/23 11:35*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/16/23 10:08*	*10/18/23 11:35*	*1*

Lab Sample ID: LCS 880-64787/1-A
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64787

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1128		mg/Kg		113	70 - 130		
Toluene			0.100	0.1093		mg/Kg		109	70 - 130		
Ethylbenzene			0.100	0.1129		mg/Kg		113	70 - 130		
m-Xylene & p-Xylene			0.200	0.2488		mg/Kg		124	70 - 130		
o-Xylene			0.100	0.1241		mg/Kg		124	70 - 130		

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

Lab Sample ID: LCSD 880-64787/2-A
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64787

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1041		mg/Kg		104	70 - 130	8	35
Toluene			0.100	0.09921		mg/Kg		99	70 - 130	10	35
Ethylbenzene			0.100	0.1040		mg/Kg		104	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2295		mg/Kg		115	70 - 130	8	35
o-Xylene			0.100	0.1149		mg/Kg		115	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 890-5456-1 MS
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: FS12
Prep Type: Total/NA
Prep Batch: 64787

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1005		mg/Kg		101	70 - 130		
Toluene	<0.00201	U	0.0998	0.09718		mg/Kg		97	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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

Lab Sample ID: 890-5456-1 MS
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: FS12
Prep Type: Total/NA
Prep Batch: 64787

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1087		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2322		mg/Kg		116	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1151		mg/Kg		115	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-5456-1 MSD
Matrix: Solid
Analysis Batch: 64934

Client Sample ID: FS12
Prep Type: Total/NA
Prep Batch: 64787

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.09711		mg/Kg		98	70 - 130	3	35
Toluene	<0.00201	U	0.0996	0.09323		mg/Kg		94	70 - 130	4	35
Ethylbenzene	<0.00201	U	0.0996	0.09923		mg/Kg		100	70 - 130	9	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2167		mg/Kg		109	70 - 130	7	35
o-Xylene	<0.00201	U	0.0996	0.1073		mg/Kg		108	70 - 130	7	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-64788/1-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64788

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		10/16/23 08:00	10/16/23 08:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 08:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/16/23 08:00	10/16/23 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*10/16/23 08:00*	*10/16/23 08:49*	*1*
o-Terphenyl	*98*		*70 - 130*	*10/16/23 08:00*	*10/16/23 08:49*	*1*

Lab Sample ID: LCS 880-64788/2-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64788

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	881.8		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)			1000	915.4		mg/Kg		92	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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

Lab Sample ID: LCS 880-64788/2-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64788

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: LCSD 880-64788/3-A
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64788

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	866.4		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	877.5		mg/Kg		88	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	93		70 - 130

Lab Sample ID: 890-5457-A-1-F MS
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 64788

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	991	734.8		mg/Kg		72	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	991	703.9		mg/Kg		71	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	72		70 - 130

Lab Sample ID: 890-5457-A-1-G MSD
Matrix: Solid
Analysis Batch: 64753

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 64788

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	991	733.4		mg/Kg		71	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	991	712.2		mg/Kg		72	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	71		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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

Lab Sample ID: MB 880-64861/1-A
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64861

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		10/17/23 08:47	10/17/23 20:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/17/23 08:47	10/17/23 20:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/17/23 08:47	10/17/23 20:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*143*	*S1+*	*70 - 130*	*10/17/23 08:47*	*10/17/23 20:10*	*1*
o-Terphenyl	*153*	*S1+*	*70 - 130*	*10/17/23 08:47*	*10/17/23 20:10*	*1*

Lab Sample ID: LCS 880-64861/2-A
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64861

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	960.6		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	978.9		mg/Kg		98	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: LCSD 880-64861/3-A
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64861

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	968.9		mg/Kg		97	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	927.1		mg/Kg		93	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-5456-5 MS
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: SW04
Prep Type: Total/NA
Prep Batch: 64861

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	991	913.7		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	991	1054		mg/Kg		104	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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

Lab Sample ID: 890-5456-5 MS
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: SW04
Prep Type: Total/NA
Prep Batch: 64861

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*111*		*70 - 130*

Lab Sample ID: 890-5456-5 MSD
Matrix: Solid
Analysis Batch: 64850

Client Sample ID: SW04
Prep Type: Total/NA
Prep Batch: 64861

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	991	914.8		mg/Kg		89	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	991	1058		mg/Kg		104	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-64795/1-A
Matrix: Solid
Analysis Batch: 64889

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			10/17/23 21:58	1

Lab Sample ID: LCS 880-64795/2-A
Matrix: Solid
Analysis Batch: 64889

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.5		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-64795/3-A
Matrix: Solid
Analysis Batch: 64889

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	235.4		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 880-34442-A-1-C MS
Matrix: Solid
Analysis Batch: 64889

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	136	F1	248	353.3	F1	mg/Kg		88	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-34442-A-1-D MSD
Matrix: Solid
Analysis Batch: 64889

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	136	F1	248	354.4	F1	mg/Kg		88	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

GC VOA

Prep Batch: 64787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	5035	
890-5456-2	FS13	Total/NA	Solid	5035	
890-5456-3	FS14	Total/NA	Solid	5035	
890-5456-4	FS15	Total/NA	Solid	5035	
890-5456-5	SW04	Total/NA	Solid	5035	
890-5456-6	SW05	Total/NA	Solid	5035	
890-5456-7	SW06	Total/NA	Solid	5035	
890-5456-8	SW07	Total/NA	Solid	5035	
MB 880-64787/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-64787/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-64787/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5456-1 MS	FS12	Total/NA	Solid	5035	
890-5456-1 MSD	FS12	Total/NA	Solid	5035	

Analysis Batch: 64934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	8021B	64787
890-5456-2	FS13	Total/NA	Solid	8021B	64787
890-5456-3	FS14	Total/NA	Solid	8021B	64787
890-5456-4	FS15	Total/NA	Solid	8021B	64787
890-5456-5	SW04	Total/NA	Solid	8021B	64787
890-5456-6	SW05	Total/NA	Solid	8021B	64787
890-5456-7	SW06	Total/NA	Solid	8021B	64787
890-5456-8	SW07	Total/NA	Solid	8021B	64787
MB 880-64787/5-A	Method Blank	Total/NA	Solid	8021B	64787
LCS 880-64787/1-A	Lab Control Sample	Total/NA	Solid	8021B	64787
LCSD 880-64787/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	64787
890-5456-1 MS	FS12	Total/NA	Solid	8021B	64787
890-5456-1 MSD	FS12	Total/NA	Solid	8021B	64787

Analysis Batch: 65083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	Total BTEX	
890-5456-2	FS13	Total/NA	Solid	Total BTEX	
890-5456-3	FS14	Total/NA	Solid	Total BTEX	
890-5456-4	FS15	Total/NA	Solid	Total BTEX	
890-5456-5	SW04	Total/NA	Solid	Total BTEX	
890-5456-6	SW05	Total/NA	Solid	Total BTEX	
890-5456-7	SW06	Total/NA	Solid	Total BTEX	
890-5456-8	SW07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 64753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	8015B NM	64788
890-5456-2	FS13	Total/NA	Solid	8015B NM	64788
890-5456-3	FS14	Total/NA	Solid	8015B NM	64788
890-5456-4	FS15	Total/NA	Solid	8015B NM	64788
MB 880-64788/1-A	Method Blank	Total/NA	Solid	8015B NM	64788
LCS 880-64788/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64788

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

GC Semi VOA (Continued)

Analysis Batch: 64753 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-64788/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64788
890-5457-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	64788
890-5457-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	64788

Prep Batch: 64788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	8015NM Prep	
890-5456-2	FS13	Total/NA	Solid	8015NM Prep	
890-5456-3	FS14	Total/NA	Solid	8015NM Prep	
890-5456-4	FS15	Total/NA	Solid	8015NM Prep	
MB 880-64788/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64788/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64788/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5457-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5457-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 64850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-5	SW04	Total/NA	Solid	8015B NM	64861
890-5456-6	SW05	Total/NA	Solid	8015B NM	64861
890-5456-7	SW06	Total/NA	Solid	8015B NM	64861
890-5456-8	SW07	Total/NA	Solid	8015B NM	64861
MB 880-64861/1-A	Method Blank	Total/NA	Solid	8015B NM	64861
LCS 880-64861/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	64861
LCSD 880-64861/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	64861
890-5456-5 MS	SW04	Total/NA	Solid	8015B NM	64861
890-5456-5 MSD	SW04	Total/NA	Solid	8015B NM	64861

Prep Batch: 64861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-5	SW04	Total/NA	Solid	8015NM Prep	
890-5456-6	SW05	Total/NA	Solid	8015NM Prep	
890-5456-7	SW06	Total/NA	Solid	8015NM Prep	
890-5456-8	SW07	Total/NA	Solid	8015NM Prep	
MB 880-64861/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-64861/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-64861/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5456-5 MS	SW04	Total/NA	Solid	8015NM Prep	
890-5456-5 MSD	SW04	Total/NA	Solid	8015NM Prep	

Analysis Batch: 64873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Total/NA	Solid	8015 NM	
890-5456-2	FS13	Total/NA	Solid	8015 NM	
890-5456-3	FS14	Total/NA	Solid	8015 NM	
890-5456-4	FS15	Total/NA	Solid	8015 NM	
890-5456-5	SW04	Total/NA	Solid	8015 NM	
890-5456-6	SW05	Total/NA	Solid	8015 NM	
890-5456-7	SW06	Total/NA	Solid	8015 NM	
890-5456-8	SW07	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

HPLC/IC

Leach Batch: 64795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Soluble	Solid	DI Leach	
890-5456-2	FS13	Soluble	Solid	DI Leach	
890-5456-3	FS14	Soluble	Solid	DI Leach	
890-5456-4	FS15	Soluble	Solid	DI Leach	
890-5456-5	SW04	Soluble	Solid	DI Leach	
890-5456-6	SW05	Soluble	Solid	DI Leach	
890-5456-7	SW06	Soluble	Solid	DI Leach	
890-5456-8	SW07	Soluble	Solid	DI Leach	
MB 880-64795/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-64795/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-64795/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-34442-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-34442-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 64889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5456-1	FS12	Soluble	Solid	300.0	64795
890-5456-2	FS13	Soluble	Solid	300.0	64795
890-5456-3	FS14	Soluble	Solid	300.0	64795
890-5456-4	FS15	Soluble	Solid	300.0	64795
890-5456-5	SW04	Soluble	Solid	300.0	64795
890-5456-6	SW05	Soluble	Solid	300.0	64795
890-5456-7	SW06	Soluble	Solid	300.0	64795
890-5456-8	SW07	Soluble	Solid	300.0	64795
MB 880-64795/1-A	Method Blank	Soluble	Solid	300.0	64795
LCS 880-64795/2-A	Lab Control Sample	Soluble	Solid	300.0	64795
LCSD 880-64795/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	64795
880-34442-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	64795
880-34442-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	64795

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS12

Lab Sample ID: 890-5456-1

Date Collected: 10/13/23 06:40
Matrix: Solid
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 14:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 14:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/16/23 20:33	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 20:33	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 00:18	CH	EET MID

Client Sample ID: FS13

Lab Sample ID: 890-5456-2

Date Collected: 10/13/23 07:40
Matrix: Solid
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 14:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 14:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/16/23 20:56	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 20:56	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 00:38	CH	EET MID

Client Sample ID: FS14

Lab Sample ID: 890-5456-3

Date Collected: 10/13/23 11:00
Matrix: Solid
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 15:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 15:12	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/16/23 21:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 21:20	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 00:45	CH	EET MID

Client Sample ID: FS15

Lab Sample ID: 890-5456-4

Date Collected: 10/13/23 11:45
Matrix: Solid
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 15:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 15:32	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: FS15

Lab Sample ID: 890-5456-4
Matrix: Solid
Date Collected: 10/13/23 11:45
Date Received: 10/13/23 13:42

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			64873	10/16/23 21:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.07 g	10 mL	64788	10/16/23 10:59	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64753	10/16/23 21:45	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 00:52	CH	EET MID

Client Sample ID: SW04

Lab Sample ID: 890-5456-5
Matrix: Solid
Date Collected: 10/13/23 11:05
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 15:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 15:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/17/23 21:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	64861	10/17/23 08:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64850	10/17/23 21:17	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 00:58	CH	EET MID

Client Sample ID: SW05

Lab Sample ID: 890-5456-6
Matrix: Solid
Date Collected: 10/13/23 11:25
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 17:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 17:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/17/23 22:23	SM	EET MID
Total/NA	Prep	8015NM Prep			9.94 g	10 mL	64861	10/17/23 08:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64850	10/17/23 22:23	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 01:05	CH	EET MID

Client Sample ID: SW06

Lab Sample ID: 890-5456-7
Matrix: Solid
Date Collected: 10/13/23 11:35
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 18:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 18:01	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/17/23 22:45	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	64861	10/17/23 08:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64850	10/17/23 22:45	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: James Ranch Unit 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Client Sample ID: SW06

Lab Sample ID: 890-5456-7
Matrix: Solid
Date Collected: 10/13/23 11:35
Date Received: 10/13/23 13:42

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 01:11	CH	EET MID

Client Sample ID: SW07

Lab Sample ID: 890-5456-8
Matrix: Solid
Date Collected: 10/13/23 11:40
Date Received: 10/13/23 13:42

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	64787	10/16/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	64934	10/18/23 18:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			65083	10/18/23 18:22	SM	EET MID
Total/NA	Analysis	8015 NM		1			64873	10/17/23 23:07	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	64861	10/17/23 08:47	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	64850	10/17/23 23:07	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	64795	10/16/23 11:51	SMC	EET MID
Soluble	Analysis	300.0		1			64889	10/18/23 01:18	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 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

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 21 Riser

Job ID: 890-5456-1
SDG: 03C1558276

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5456-1	FS12	Solid	10/13/23 06:40	10/13/23 13:42	4'
890-5456-2	FS13	Solid	10/13/23 07:40	10/13/23 13:42	4'
890-5456-3	FS14	Solid	10/13/23 11:00	10/13/23 13:42	4'
890-5456-4	FS15	Solid	10/13/23 11:45	10/13/23 13:42	4'
890-5456-5	SW04	Solid	10/13/23 11:05	10/13/23 13:42	0-4'
890-5456-6	SW05	Solid	10/13/23 11:25	10/13/23 13:42	0-4'
890-5456-7	SW06	Solid	10/13/23 11:35	10/13/23 13:42	0-4'
890-5456-8	SW07	Solid	10/13/23 11:40	10/13/23 13:42	0-4'

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 21 Riser	Turn Around	
Project Number:	03C1558276	☒ Routine ☐ Rush	
Project Location:	32.35505, -103.84582	Due Date:	5days
Sampler's Name:	Mariaha 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:	TAMB0
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	5.6
Total Containers:		Corrected Temperature:	5.4

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

890-5456 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: Chlorides	TPH	BTEX
FS12	S	10/13/23	10:40	4'	C	1		X	X	X
FS13	S		7:40	4'						
FS14	S		11:00	4'						
FS15	S		11:45	4'						
SW04	S		11:05	0-4'						
SW05	S		11:25	0-4'						
SW06	S		11:35	0-4'						
SW07	S		11:40	0-4'						

MO

Sample Comments

Incident #:
nAPP2322742848
Cost Center:
1081711001
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

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

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5456-1
SDG Number: 03C1558276

Login Number: 5456
List Number: 1
Creator: Bruns, Shannon

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: 890-5456-1
SDG Number: 03C1558276

Login Number: 5456
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/16/23 08:35 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

Collins, Melanie

From: OCDOnline@state.nm.us
Sent: Tuesday, August 15, 2023 12:54 PM
To: Collins, Melanie
Subject: The Oil Conservation Division (OCD) has accepted the application, Application ID: 252241

To whom it may concern (c/o Melanie Collins for XTO ENERGY, INC),

The OCD has accepted the submitted *Notification of a release* (NOR), for incident ID (n#) nAPP2322742848, with the following conditions:

- **When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141.**

Please reference nAPP2322742848, on all subsequent C-141 submissions and communications regarding the remediation of this release.
NOTE: As of December 2019, NMOCD has discontinued the use of the "RP" number.
If you have any questions regarding this application, or don't know why you have received this email, please contact us.

ocd.enviro@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Collins, Melanie
To: ocd.enviro (ocd.enviro@emnrd.nm.gov); spills@slo.state.nm.us
Cc: Green, Garrett J; Ben Belill; Tacoma Morrissey; DelawareSpills /SM; Lambert, Tommee L
Subject: XTO - Sampling Notification (Week of 10/9/23 - 10/13/23)
Date: Thursday, October 5, 2023 12:31:34 PM
Attachments: image001.png

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of October 9, 2023.

Tuesday
- Corral Canyon Expansion / NRM2021833146
- James Ranch Unit 21 Riser / Napp2322742848

Wednesday
- James Ranch Unit 21 Riser / Napp2322742848
- Corral Canyon Expansion / NRM2021833146

Thursday
- James Ranch Unit 21 Riser / Napp2322742848
- JRU DI 11 Ekalaka 823H / NAPP2224527297 (SLO)
- PLU 23 Dog Town Draw 154H / nAPP2316446382

Friday
- JRU 108H / nAPP2217931599
- PLU 18 TWR Sat Battery / nAPP2230551957

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 283855

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 283855
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved. A reclamation report will need to be submitted and include: 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. 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.	3/12/2024
bhall	A revegetation report will need to be submitted but will not be accepted until the release area, including areas reasonably needed for production or drilling activities, if applicable, are complete and meet the requirements of 19.15.29.13 NMAC.	3/12/2024
bhall	The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	3/12/2024
bhall	Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and revegetation report will need to be submitted to the OCD via the Permitting website.	3/12/2024
bhall	Submit a complete reclamation report through the OCD Permitting website by 6/12/2024.	3/12/2024