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	NAPP2126045826
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Shelby Pennington	Contact Telephone 281-723-9353
Contact email shelby.pennington@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.20138 Longitude -103.88395
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 293	Site Type Flow Line
Date Release Discovered 9/05/2021	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
J	21	24S	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) 5.88	Volume Recovered (bbls) 4.40
☒ Produced Water	Volume Released (bbls) 67.57	Volume Recovered (bbls) 50.60
	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 The flowline failed due to corrosion, releasing fluids to ground. Vacuum trucks recovered all standing fluids. A third-party contractor has been retained for remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2126045826
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release equal to or greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Garrett Green to emily.hernandez@state.nm.us; Mike Bratcher; Victoria Venegas; Rob Hamlet; camorgan@blm.gov; blm_nm_cfo_spill@blm.gov on Monday, September 6, 2021 9:45 AM via email.

Initial Response

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

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

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

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

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

Printed Name: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 9/17/21

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

OCD Only

Received by: Ramona Marcus Date: 9/20/2021

Location:	PLU 293 Flow Line	
Spill Date:	9/5/2021	
Area 1		
Approximate Area =	4397.00	sq. ft.
Average Saturation (or depth) of spill =	0.75	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	4.52	bbls
Total Produced Water =	51.95	bbls
Area 2		
Approximate Area =	1579.70	sq. ft.
Average Saturation (or depth) of spill =	3.62	inches
Average Porosity Factor =	0.20	
VOLUME OF LEAK		
Total Crude Oil =	1.36	bbls
Total Produced Water =	15.62	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**5.88**	**bbls**
Total Produced Water =	**67.57**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**4.40**	**bbls**
Total Produced Water =	**50.60**	**bbls**

Incident ID	NAPP2126045826
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.

Incident ID	NAPP2126045826
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: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 02/02/2022

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated. *Delineation not feasible due to existing tank battery, lines, equipment,and containment above potential affected area*

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: Jennifer Nobui Date: 09/22/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2126045826
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☒ Extents of contamination must be fully delineated.

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

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

Printed Name: __ Garrett Green _____ Title: ____ Environmental Coordinator _____

Signature: ___  _____ Date: __12/13/2022_____

email: ____ garrett.green@exxonmobil.com _____ Telephone: ___575-200-0729_____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

ENSOLUM

December 13, 2022

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

Re: Request for Confirmation
PLU 293 Flow Line
Incident Number NAPP2126045826
Case Number 22700
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document delineation and soil sampling activities at the Poker Lake Unit (PLU) 293 Flow Line (Site). The purpose of the soil sampling activities was to complete the scope of work outlined in an approved *Remediation Work Plan (Work Plan)*. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Deferral Report*, describing delineation activities that have occurred and requesting deferral of final remediation in the lease road for Incident Number NAPP2126045826 until final reclamation activities following plugging and abandonment of the Site.

SITE DESCRIPTION AND REMEDIATION SUMMARY

The Site is located in Unit J, Section 21, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.20138°N, 103.88395°W) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On September 5, 2021, a flow line failed due to corrosion, resulting in the release of 5.88 barrels (bbls) of crude oil and 67.57 bbls of produced water onto the well pad, lease road, and pasture area north of the pad. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids; approximately 4.4 bbls of crude oil and 50.6 bbls of produced water were recovered. XTO reported the release to the NMOCD via email on September 6, 2021 and submitted a Release Notification Form C-141 (Form C-141) on September 17, 2021. The release was assigned Incident Number NAPP2126045826.

XTO completed remediation activities in response to the release and submitted a *Closure Request* to the NMOCD on January 28, 2022. As reported in the *Closure Request*, the following Table I Closure Criteria were applied to the release areas on the active well pad and lease road:

- 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

Additionally, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH were applied to the top four feet of the impacted pasture area, according to 19.15.29.13.D (1) NMAC. The pasture was backfilled with locally procured topsoil and recontoured to match existing site conditions. The pasture will be reseeded with a BLM-approved seed mix and monitored for vegetation growth. On February 8, 2022, NMOCD denied the Closure Request.

XTO filed a hearing request (Case Number 22700) in response to the denial and attended a pre-hearing meeting with NMOCD on April 15, 2022. As an alternative to a hearing, XTO and NMOCD agreed, among other things, to the following activity related to the impacted area of the lease road:

- NMOCD agreed that XTO appropriately remediated, restored, and reclaimed the impacted pasture and appropriately remediated the well pad.
    - NMOCD agreed to update the status of Incident Number nAPP2126045826 to reflect that remediation to Table I Closure Criteria are complete.
    - NMOCD agreed to indicate in the Incident Web Portal for Incident Number nAPP2126045826 that pasture reclamation is complete.

- With respect to the caliche lease road, NMOCD agreed that XTO appropriately applied Table I Closure Criteria (referenced above) to delineate the horizontal extent of the impacted area and remediated the extent below this impacted area in accordance with the applicable Table I Closure Criteria.

- To provide further vertical delineation of the impacted area of the lease road, XTO agreed to collect and analyze samples from 4 feet bgs within the horizontal extent of the impacted area of the lease road.
    - XTO agreed to submit to NMOCD for review and approval a delineation sampling and analysis work plan for the impacted area of the lease road. Once approved, XTO would conduct the delineation sampling and analysis in accordance with the approved work plan.
    - If the results of delineation samples demonstrated the impacted area of the lease road meets the applicable Table I Closure Criteria (referenced above), NMOCD agreed to approve closure for the site characterization and remediation phases of this incident for the lease road.
    - If the results of any delineation sample did not demonstrate the impacted area of the lease road meets the applicable Table I Closure Criteria, XTO agreed to continue delineation and remediation activities until the applicable Table I Closure Criteria are met.

- If the any of the delineation sample results exceed 600 mg/kg chloride, NMOCD will close the site characterization and remediation phases of this incident for the lease road and will require no further action from XTO until XTO abandons the road, which shall be deemed to occur when all wells being accessed by this portion of the road have been plugged and abandoned. Upon abandonment of the road, XTO agreed to reclaim the lease road to the reclamation requirements in 19.15.29.13.D. Once satisfactorily reclaimed, NMOCD agreed to fully close the incident and so indicate in its Incident Web Portal.

- To facilitate the administration of site characterization and remediation closure of areas such as the caliche lease road, NMOCD will revise its Incident Web Portal so that it can separately indicate the status of an incident's site characterization, remediation, and reclamation. For this incident, NMOCD agreed to indicate in its Incident Web Portal that reclamation is not required until the lease road is permanently abandoned.

NMOCD's updates to the Incident Web Portal are pending. After NMOCD updates the status of the incident to reflect the above changes, XTO will withdraw its application for hearing.

XTO subsequently submitted a *Work Plan* on June 16, 2022, detailing the proposed vertical delineation be completed at five locations on the lease road. XTO proposed to advance potholes via backhoe to a depth of 4 feet bgs at the locations of previously collected excavation confirmation floor samples FS15, FS16, FS17, FS29, and FS30. The samples would be submitted for laboratory analysis of BTEX, TPH, and chloride. The NMOCD approved the *Work Plan* on September 22, 2022.

DELINEATION SOIL SAMPLING ACTIVITIES

On November 17, 2022, Ensolum personnel collected five potholes (PH01 through PH05), which were advanced via hydrovac to a depth of 4 feet bgs at the location of floor samples FS15, FS16, FS17, FS29, and FS30 (Figure 1). Delineation soil samples were collected from the potholes at a depth of 4 feet bgs. Soil from the delineation pothole was field screened for volatile aromatic hydrocarbons (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 1. Photographic documentation is included in Appendix A.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody 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.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for PH01 through PH05, collected at 4 feet bgs indicated that concentrations of COCs were below the applicable Table I Closure Criteria of 19.15.29.12 NMAC (*i.e.* 20,000 mg/kg chloride; 2,500 mg/kg TPH; 1,000 mg/kg GRO+DRO; 50 mg/kg BTEX; 10 mg/kg benzene). Further, the analytical results for PH01 through PH05 demonstrate the concentration of chloride is below 600 mg/kg, the 19.15.29.13D reclamation requirement. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Appendix B.

DEFERRAL REQUEST

Delineation samples PH01 through PH05 were collected at 4 feet bgs in locations of the lease road approved by NMOCD. Laboratory analytical results indicated all COC concentrations were below the applicable Table 1 Closure Criteria of 19.15.29.12 NMAC and that chloride concentrations in these samples were below 600 mg/kg, the reclamation requirement in 19.15.30.13D NMAC. Accordingly, and pursuant to the agreement between NMOCD and XTO, XTO requests from NMOCD the following:

- Update the Incident Web Portal to reflect the status of Incident No. NAPP2126045826 to reflect that Table I remediation activities are complete.

- Update the Incident Web Portal to reflect that reclamation of the impacted area within the pasture is complete.
- Confirm that site characterization and remediation are complete for the impacted area of the lease road and update the Incident Web Portal to reflect this status.
- Confirm, with respect to the impacted area of the lease road, that no further action is required until XTO abandons the road, which shall be deemed to occur when all wells being accessed by this portion of the road have been plugged and abandoned and update the Incident Web Portal to reflect this status.

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

Sincerely,
Ensolum, LLC

Anita Thapalia, P.G.
Project Geologist

Ashley L. Ager, P.G.
Program Director

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

Appendices:

Figure 1	Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Photographic Log
Appendix B	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix C	NMOCD Notifications

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FIGURES

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
PLU 293 Flow Line
NAPP2126045826
Unit J, Sec 21, T24S, R30E
Eddy County, New Mexico

FIGURE
1

ENSOLUM

TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 293 Flow Line
XTO Energy, Inc.
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Excavation Soil Samples on the Lease Road										
FS15	11/22/2021	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	3,560
FS16	11/22/2021	0.5	<0.00200	<0.00399	69.8	<50.0	<50.0	69.8	69.8	991
FS17	11/22/2021	0.5	<0.00198	<0.00396	55.8	<49.9	<49.9	55.8	55.8	1,500
FS29	01/05/2022	0.5	<0.00200	<0.00401	91.7	<50.0	<50.0	91.7	91.7	2,220
FS30	01/05/2022	0.5	<0.00198	<0.00396	99.9	<50.0	<50.0	99.9	99.9	1,270
Delineation Soil Samples on the Lease Road										
PH01	11/17/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	83.5
PH02	11/17/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	119
PH03	11/17/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	208
PH04	11/17/2022	4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	170
PH05	11/17/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	155

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code

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APPENDIX A

Photographic Log

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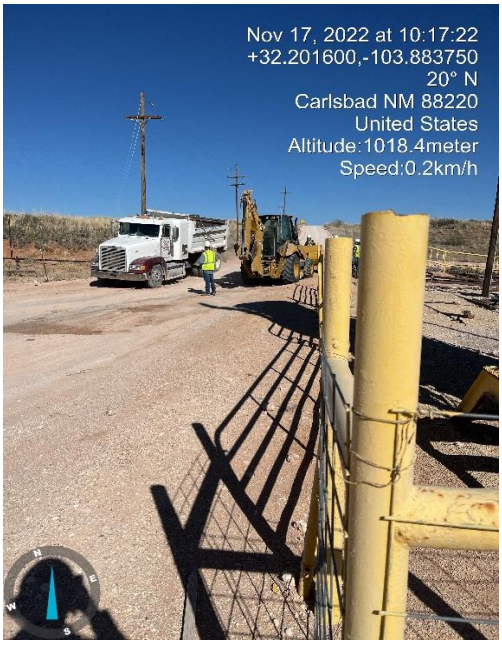
Photographic Log
XTO Energy, Inc.
PLU 293 Flow Line
Incident Number NAPP2126045826



Photograph: 1 Date: November 17, 2022
Description: Photo of delineation activities.
View: North

Photograph: 2 Date: November 17, 2022
Description: Photo of delineation activities.
View: North

ENSOLUM

APPENDIX B

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

PLU 293 Flowline
SDG NUMBER 03E1558039

JOB NUMBER

890-3512-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

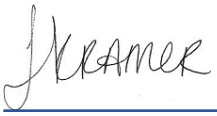
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/1/2022 12:59:13 PM

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

Client: Ensolum
Project/Site: PLU 293 Flowline

Laboratory Job ID: 890-3512-1
SDG: 03E1558039

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QC Sample Results 11
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Lab Chronicle 17
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Method Summary 20
Sample Summary 21
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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Qualifiers

GC 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, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
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: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Job ID: 890-3512-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3512-1

Receipt
The samples were received on 11/18/2022 8:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3512-1), PH02 (890-3512-2), PH03 (890-3512-3), PH04 (890-3512-4) and PH05 (890-3512-5).

GC VOA
Method 8021B: The absolute response for Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene was greater than the method reporting limit (RL) in the following sample: (LCSD 880-40436/2-A). The instrument raw data has been manually reviewed and the result can be reported as ND.

Method 8021B: The matrix spike (MS) and/or matrix spike duplicate (MSD) recovery for preparation batch 880-40436 and analytical batch 880-40689 was outside control limits for the following analyte(s): Benzene and Toluene. Results may be biased high because this analyte is a common laboratory solvent and contaminant.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-40436 and analytical batch 880-40689 was outside the control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH03 (890-3512-3). 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.

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-40210 and analytical batch 880-40168 was outside the upper control limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH01

Lab Sample ID: 890-3512-1
Matrix: Solid
Date Collected: 11/17/22 10:15
Date Received: 11/18/22 08:20
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	11/30/22 23:49	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	11/30/22 23:49	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	11/30/22 23:49	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	11/30/22 23:49	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	11/30/22 23:49	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	11/30/22 23:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*11/28/22 11:21*	*11/30/22 23:49*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*11/28/22 11:21*	*11/30/22 23:49*	*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			12/01/22 13:21	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			11/23/22 11:46	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	<49.9	U	49.9		mg/Kg		11/22/22 11:24	11/23/22 00:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/22/22 11:24	11/23/22 00:35	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/22/22 11:24	11/23/22 00:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*11/22/22 11:24*	*11/23/22 00:35*	*1*
o-Terphenyl	*90*		*70 - 130*	*11/22/22 11:24*	*11/23/22 00:35*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**83.5**		4.99		mg/Kg			11/23/22 04:47	1

Client Sample ID: PH02

Lab Sample ID: 890-3512-2
Matrix: Solid
Date Collected: 11/17/22 10:05
Date Received: 11/18/22 08:20
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 00:15	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 00:15	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 00:15	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 00:15	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 00:15	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*11/28/22 11:21*	*12/01/22 00:15*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH02

Date Collected: 11/17/22 10:05
Date Received: 11/18/22 08:20
Sample Depth: 4'

Lab Sample ID: 890-3512-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*11/28/22 11:21*	*12/01/22 00:15*	*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			12/01/22 13:21	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			11/23/22 11:46	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	<49.9	U	49.9	mg/Kg		11/22/22 11:24	11/23/22 00:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		11/22/22 11:24	11/23/22 00:57	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		11/22/22 11:24	11/23/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*11/22/22 11:24*	*11/23/22 00:57*	*1*
o-Terphenyl	*112*		*70 - 130*	*11/22/22 11:24*	*11/23/22 00:57*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**119**		4.97	mg/Kg			11/23/22 04:53	1

Client Sample ID: PH03

Date Collected: 11/17/22 09:50
Date Received: 11/18/22 08:20
Sample Depth: 4'

Lab Sample ID: 890-3512-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200	mg/Kg		11/28/22 11:21	12/01/22 00:41	1
Toluene	<0.00200	U *- *1	0.00200	mg/Kg		11/28/22 11:21	12/01/22 00:41	1
Ethylbenzene	<0.00200	U *- *1	0.00200	mg/Kg		11/28/22 11:21	12/01/22 00:41	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399	mg/Kg		11/28/22 11:21	12/01/22 00:41	1
o-Xylene	<0.00200	U *- *1	0.00200	mg/Kg		11/28/22 11:21	12/01/22 00:41	1
Xylenes, Total	<0.00399	U *- *1	0.00399	mg/Kg		11/28/22 11:21	12/01/22 00:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*11/28/22 11:21*	*12/01/22 00:41*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/28/22 11:21*	*12/01/22 00:41*	*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			12/01/22 13:21	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			11/23/22 11:46	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH03

Date Collected: 11/17/22 09:50
Date Received: 11/18/22 08:20
Sample Depth: 4'

Lab Sample ID: 890-3512-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 01:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 01:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 01:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/22/22 11:24*	*11/23/22 01:41*	*1*
o-Terphenyl	*93*		*70 - 130*	*11/22/22 11:24*	*11/23/22 01:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**208**		5.00		mg/Kg			11/23/22 04:58	1

Client Sample ID: PH04

Date Collected: 11/17/22 09:55
Date Received: 11/18/22 08:20
Sample Depth: 4'

Lab Sample ID: 890-3512-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		11/28/22 11:21	12/01/22 01:06	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		11/28/22 11:21	12/01/22 01:06	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		11/28/22 11:21	12/01/22 01:06	1
m-Xylene & p-Xylene	<0.00401	U *- *1	0.00401		mg/Kg		11/28/22 11:21	12/01/22 01:06	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		11/28/22 11:21	12/01/22 01:06	1
Xylenes, Total	<0.00401	U *- *1	0.00401		mg/Kg		11/28/22 11:21	12/01/22 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*11/28/22 11:21*	*12/01/22 01:06*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*11/28/22 11:21*	*12/01/22 01:06*	*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			12/01/22 13:21	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			11/23/22 11:46	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	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*11/22/22 11:24*	*11/23/22 02:03*	*1*
o-Terphenyl	*97*		*70 - 130*	*11/22/22 11:24*	*11/23/22 02:03*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH04

Lab Sample ID: 890-3512-4
Matrix: Solid
Date Collected: 11/17/22 09:55
Date Received: 11/18/22 08:20
Sample Depth: 4'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		4.98		mg/Kg			11/23/22 05:04	1

Client Sample ID: PH05

Lab Sample ID: 890-3512-5
Matrix: Solid
Date Collected: 11/17/22 10:00
Date Received: 11/18/22 08:20
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 01:32	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 01:32	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 01:32	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 01:32	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		11/28/22 11:21	12/01/22 01:32	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		11/28/22 11:21	12/01/22 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*11/28/22 11:21*	*12/01/22 01:32*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*11/28/22 11:21*	*12/01/22 01:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/01/22 13:21	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			11/23/22 11:46	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	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/23/22 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*11/22/22 11:24*	*11/23/22 02:25*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/22/22 11:24*	*11/23/22 02:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	155		4.95		mg/Kg			11/23/22 05:09	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3511-A-10-D MS	Matrix Spike	92	104
890-3511-A-10-E MSD	Matrix Spike Duplicate	101	95
890-3512-1	PH01	89	97
890-3512-2	PH02	102	105
890-3512-3	PH03	68 S1-	109
890-3512-4	PH04	100	106
890-3512-5	PH05	96	104
LCS 880-40436/1-A	Lab Control Sample	99	89
LCSD 880-40436/2-A	Lab Control Sample Dup	0 S1-	0 S1-
MB 880-40436/5-A	Method Blank	66 S1-	95

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)
820-6564-A-1-E MS	Matrix Spike	99	95
820-6564-A-1-F MSD	Matrix Spike Duplicate	117	97
890-3512-1	PH01	95	90
890-3512-2	PH02	117	112
890-3512-3	PH03	96	93
890-3512-4	PH04	100	97
890-3512-5	PH05	97	96
LCS 880-40210/2-A	Lab Control Sample	104	103
LCSD 880-40210/3-A	Lab Control Sample Dup	115	102
MB 880-40210/1-A	Method Blank	135 S1+	135 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-40436/5-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40436

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/28/22 11:21	11/30/22 17:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/28/22 11:21	11/30/22 17:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*11/28/22 11:21*	*11/30/22 17:06*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*11/28/22 11:21*	*11/30/22 17:06*	*1*

Lab Sample ID: LCS 880-40436/1-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40436

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1127		mg/Kg		113	70 - 130		
Toluene			0.100	0.1182		mg/Kg		118	70 - 130		
Ethylbenzene			0.100	0.1070		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene			0.200	0.2149		mg/Kg		107	70 - 130		
o-Xylene			0.100	0.1084		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: LCSD 880-40436/2-A
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40436

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
Toluene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
Ethylbenzene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35
m-Xylene & p-Xylene			0.200	<0.00400	U *- *1	mg/Kg		0	70 - 130	200	35
o-Xylene			0.100	<0.00200	U *- *1	mg/Kg		0	70 - 130	200	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*0*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*0*	*S1-*	*70 - 130*

Lab Sample ID: 890-3511-A-10-D MS
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1 *- *1	0.0996	0.1174		mg/Kg		118	70 - 130		
Toluene	<0.00201	U F1 *- *1	0.0996	0.1158		mg/Kg		116	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

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

Lab Sample ID: 890-3511-A-10-D MS
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U *- *1	0.0996	0.09952		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00402	U *- *1	0.199	0.2008		mg/Kg		101	70 - 130
o-Xylene	<0.00201	U *- *1	0.0996	0.1059		mg/Kg		106	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3511-A-10-E MSD
Matrix: Solid
Analysis Batch: 40689

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 40436

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 *- *1	0.100	0.1370	F1	mg/Kg		136	70 - 130	15	35
Toluene	<0.00201	U F1 *- *1	0.100	0.1331	F1	mg/Kg		133	70 - 130	14	35
Ethylbenzene	<0.00201	U *- *1	0.100	0.1144		mg/Kg		114	70 - 130	14	35
m-Xylene & p-Xylene	<0.00402	U *- *1	0.201	0.2338		mg/Kg		116	70 - 130	15	35
o-Xylene	<0.00201	U *- *1	0.100	0.1220		mg/Kg		122	70 - 130	14	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-40210/1-A
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 40210

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		11/22/22 11:24	11/22/22 19:48	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/22/22 19:48	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/22/22 11:24	11/22/22 19:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*11/22/22 11:24*	*11/22/22 19:48*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*11/22/22 11:24*	*11/22/22 19:48*	*1*

Lab Sample ID: LCS 880-40210/2-A
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40210

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	994.7		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)			1000	955.7		mg/Kg		96	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

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

Lab Sample ID: LCS 880-40210/2-A
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 40210

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-40210/3-A
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 40210

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	869.2		mg/Kg		87	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	926.3		mg/Kg		93	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	115		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 820-6564-A-1-E MS
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 40210

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	822.5		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	906.5		mg/Kg		88	70 - 130

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

Lab Sample ID: 820-6564-A-1-F MSD
Matrix: Solid
Analysis Batch: 40168

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 40210

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	998	818.0		mg/Kg		80	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	934.6		mg/Kg		91	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40008/1-A
Matrix: Solid
Analysis Batch: 40247

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			11/23/22 02:25	1

Lab Sample ID: LCS 880-40008/2-A
Matrix: Solid
Analysis Batch: 40247

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.2		mg/Kg		106	90 - 110		

Lab Sample ID: LCSD 880-40008/3-A
Matrix: Solid
Analysis Batch: 40247

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	266.0		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 880-21749-A-11-B MS
Matrix: Solid
Analysis Batch: 40247

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	168		253	423.8		mg/Kg		101	90 - 110		

Lab Sample ID: 880-21749-A-11-C MSD
Matrix: Solid
Analysis Batch: 40247

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	168		253	425.3		mg/Kg		102	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

GC VOA

Prep Batch: 40436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	5035	
890-3512-2	PH02	Total/NA	Solid	5035	
890-3512-3	PH03	Total/NA	Solid	5035	
890-3512-4	PH04	Total/NA	Solid	5035	
890-3512-5	PH05	Total/NA	Solid	5035	
MB 880-40436/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-40436/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-40436/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3511-A-10-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3511-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 40689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	8021B	40436
890-3512-2	PH02	Total/NA	Solid	8021B	40436
890-3512-3	PH03	Total/NA	Solid	8021B	40436
890-3512-4	PH04	Total/NA	Solid	8021B	40436
890-3512-5	PH05	Total/NA	Solid	8021B	40436
MB 880-40436/5-A	Method Blank	Total/NA	Solid	8021B	40436
LCS 880-40436/1-A	Lab Control Sample	Total/NA	Solid	8021B	40436
LCSD 880-40436/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	40436
890-3511-A-10-D MS	Matrix Spike	Total/NA	Solid	8021B	40436
890-3511-A-10-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	40436

Analysis Batch: 40796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	Total BTEX	
890-3512-2	PH02	Total/NA	Solid	Total BTEX	
890-3512-3	PH03	Total/NA	Solid	Total BTEX	
890-3512-4	PH04	Total/NA	Solid	Total BTEX	
890-3512-5	PH05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 40168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	8015B NM	40210
890-3512-2	PH02	Total/NA	Solid	8015B NM	40210
890-3512-3	PH03	Total/NA	Solid	8015B NM	40210
890-3512-4	PH04	Total/NA	Solid	8015B NM	40210
890-3512-5	PH05	Total/NA	Solid	8015B NM	40210
MB 880-40210/1-A	Method Blank	Total/NA	Solid	8015B NM	40210
LCS 880-40210/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	40210
LCSD 880-40210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	40210
820-6564-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	40210
820-6564-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	40210

Prep Batch: 40210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	8015NM Prep	
890-3512-2	PH02	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

GC Semi VOA (Continued)

Prep Batch: 40210 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-3	PH03	Total/NA	Solid	8015NM Prep	
890-3512-4	PH04	Total/NA	Solid	8015NM Prep	
890-3512-5	PH05	Total/NA	Solid	8015NM Prep	
MB 880-40210/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-40210/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-40210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-6564-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
820-6564-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 40300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Total/NA	Solid	8015 NM	
890-3512-2	PH02	Total/NA	Solid	8015 NM	
890-3512-3	PH03	Total/NA	Solid	8015 NM	
890-3512-4	PH04	Total/NA	Solid	8015 NM	
890-3512-5	PH05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 40008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Soluble	Solid	DI Leach	
890-3512-2	PH02	Soluble	Solid	DI Leach	
890-3512-3	PH03	Soluble	Solid	DI Leach	
890-3512-4	PH04	Soluble	Solid	DI Leach	
890-3512-5	PH05	Soluble	Solid	DI Leach	
MB 880-40008/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40008/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40008/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21749-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21749-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 40247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3512-1	PH01	Soluble	Solid	300.0	40008
890-3512-2	PH02	Soluble	Solid	300.0	40008
890-3512-3	PH03	Soluble	Solid	300.0	40008
890-3512-4	PH04	Soluble	Solid	300.0	40008
890-3512-5	PH05	Soluble	Solid	300.0	40008
MB 880-40008/1-A	Method Blank	Soluble	Solid	300.0	40008
LCS 880-40008/2-A	Lab Control Sample	Soluble	Solid	300.0	40008
LCSD 880-40008/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40008
880-21749-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	40008
880-21749-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	40008

Lab Chronicle

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH01
Date Collected: 11/17/22 10:15
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	11/30/22 23:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40796	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40300	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	40210	11/22/22 11:24	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/23/22 00:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	40008	11/20/22 12:18	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40247	11/23/22 04:47	SMC	EET MID

Client Sample ID: PH02
Date Collected: 11/17/22 10:05
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 00:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40796	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40300	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	40210	11/22/22 11:24	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/23/22 00:57	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	40008	11/20/22 12:18	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40247	11/23/22 04:53	SMC	EET MID

Client Sample ID: PH03
Date Collected: 11/17/22 09:50
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-3
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			5.01 g	5 mL	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 00:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40796	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40300	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	40210	11/22/22 11:24	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/23/22 01:41	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	40008	11/20/22 12:18	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40247	11/23/22 04:58	SMC	EET MID

Client Sample ID: PH04
Date Collected: 11/17/22 09:55
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 01:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40796	12/01/22 13:21	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Client Sample ID: PH04

Date Collected: 11/17/22 09:55
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-4
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			40300	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	40210	11/22/22 11:24	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/23/22 02:03	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	40008	11/20/22 12:18	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40247	11/23/22 05:04	SMC	EET MID

Client Sample ID: PH05

Date Collected: 11/17/22 10:00
Date Received: 11/18/22 08:20

Lab Sample ID: 890-3512-5
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			5.02 g	5 mL	40436	11/28/22 11:21	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	40689	12/01/22 01:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			40796	12/01/22 13:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			40300	11/23/22 11:46	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	40210	11/22/22 11:24	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	40168	11/23/22 02:25	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	40008	11/20/22 12:18	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	40247	11/23/22 05:09	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 293 Flowline

Job ID: 890-3512-1
SDG: 03E1558039

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3512-1	PH01	Solid	11/17/22 10:15	11/18/22 08:20	4'
890-3512-2	PH02	Solid	11/17/22 10:05	11/18/22 08:20	4'
890-3512-3	PH03	Solid	11/17/22 09:50	11/18/22 08:20	4'
890-3512-4	PH04	Solid	11/17/22 09:55	11/18/22 08:20	4'
890-3512-5	PH05	Solid	11/17/22 10:00	11/18/22 08:20	4'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	337.257.8307 Email:		tmorrissey@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:	PLU 293 Flowline	Turn Around	Pres. Code
Project Number:	03E1558039	☑ Routine ☐ Rush	
Project Location:	32.20138, -103.68395	Due Date:	
Sampler's Name:	Meredith Roberts	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:	4.4
Total Containers:		Corrected Temperature:	4.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	BTEX	TPH
PH01	S	11/17/22	1015	4'	G	1	X	X	X
PH02			1005						
PH03			0950						
PH04			0955						
PH05	↓	↓	1000	↓	↓	↓	↓	↓	↓

890-3512 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

Incident #:
nAPP2126045826

Cost Center:
1139243001

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			11.18.22 820	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3512-1
SDG Number: 03E1558039

Login Number: 3512
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-3512-1
SDG Number: 03E1558039

Login Number: 3512
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/21/22 08:46 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1635-1
Client Project/Site: PLU 293 Flow Line

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
12/10/2021 1:32:52 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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

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

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Laboratory Job ID: 890-1635-1

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Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1635-1
Project/Site: PLU 293 Flow Line

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: WSP USA Inc. Job ID: 890-1635-1
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1635-1

Receipt
The samples were received on 11/24/2021 10:48 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS15 (890-1635-1), FS16 (890-1635-2), FS17 (890-1635-3) and FS14 (890-1635-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-13647 and analytical batch 880-14304 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: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Client Sample ID: FS15

Lab Sample ID: 890-1635-1
Matrix: Solid
Date Collected: 11/22/21 16:10
Date Received: 11/24/21 10:48
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:23	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/01/21 08:45	12/01/21 14:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:23	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/01/21 08:45	12/01/21 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*12/01/21 08:45*	*12/01/21 14:23*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*12/01/21 08:45*	*12/01/21 14:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/03/21 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/06/21 15:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 10:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 10:34	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 10:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*12/02/21 11:27*	*12/03/21 10:34*	*1*
o-Terphenyl	*105*		*70 - 130*	*12/02/21 11:27*	*12/03/21 10:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3560**		25.0		mg/Kg			12/09/21 03:46	5

Client Sample ID: FS16

Lab Sample ID: 890-1635-2
Matrix: Solid
Date Collected: 11/22/21 16:00
Date Received: 11/24/21 10:48
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/01/21 08:45	12/01/21 14:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 14:49	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/01/21 08:45	12/01/21 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*154*	*S1+*	*70 - 130*	*12/01/21 08:45*	*12/01/21 14:49*	*1*

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Client Sample ID: FS16

Lab Sample ID: 890-1635-2
Matrix: Solid
Date Collected: 11/22/21 16:00
Date Received: 11/24/21 10:48
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*12/01/21 08:45*	*12/01/21 14:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/03/21 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**69.8**		50.0		mg/Kg			12/06/21 15:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/02/21 11:27	12/03/21 11:38	1
Diesel Range Organics (Over C10-C28)	**69.8**		50.0		mg/Kg		12/02/21 11:27	12/03/21 11:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/02/21 11:27	12/03/21 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*12/02/21 11:27*	*12/03/21 11:38*	*1*
o-Terphenyl	*107*		*70 - 130*	*12/02/21 11:27*	*12/03/21 11:38*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**991**		4.98		mg/Kg			12/09/21 18:22	1

Client Sample ID: FS17

Lab Sample ID: 890-1635-3
Matrix: Solid
Date Collected: 11/22/21 16:05
Date Received: 11/24/21 10:48
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/01/21 08:45	12/01/21 15:16	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/01/21 08:45	12/01/21 15:16	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/01/21 08:45	12/01/21 15:16	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/01/21 08:45	12/01/21 15:16	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/01/21 08:45	12/01/21 15:16	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/01/21 08:45	12/01/21 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*161*	*S1+*	*70 - 130*	*12/01/21 08:45*	*12/01/21 15:16*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*12/01/21 08:45*	*12/01/21 15:16*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			12/03/21 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**55.8**		49.9		mg/Kg			12/06/21 15:44	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Client Sample ID: FS17

Lab Sample ID: 890-1635-3
Matrix: Solid
Date Collected: 11/22/21 16:05
Date Received: 11/24/21 10:48
Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 11:58	1
Diesel Range Organics (Over C10-C28)	**55.8**		49.9		mg/Kg		12/02/21 11:27	12/03/21 11:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*12/02/21 11:27*	*12/03/21 11:58*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/02/21 11:27*	*12/03/21 11:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**		5.04		mg/Kg			12/09/21 18:47	1

Client Sample ID: FS14

Lab Sample ID: 890-1635-4
Matrix: Solid
Date Collected: 11/22/21 10:00
Date Received: 11/24/21 10:48
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 15:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 15:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 15:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/01/21 08:45	12/01/21 15:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 15:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/01/21 08:45	12/01/21 15:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*150*	*S1+*	*70 - 130*	*12/01/21 08:45*	*12/01/21 15:42*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*12/01/21 08:45*	*12/01/21 15:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			12/03/21 10:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**121**		49.9		mg/Kg			12/06/21 15:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 12:19	1
Diesel Range Organics (Over C10-C28)	**121**		49.9		mg/Kg		12/02/21 11:27	12/03/21 12:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/02/21 11:27	12/03/21 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*12/02/21 11:27*	*12/03/21 12:19*	*1*
o-Terphenyl	*89*		*70 - 130*	*12/02/21 11:27*	*12/03/21 12:19*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Client Sample ID: FS14
Date Collected: 11/22/21 10:00
Date Received: 11/24/21 10:48
Sample Depth: 0.5

Lab Sample ID: 890-1635-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6710		49.9		mg/Kg			12/09/21 18:56	10

Surrogate Summary

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1635-1	FS15	154 S1+	91
890-1635-1 MS	FS15	143 S1+	98
890-1635-1 MSD	FS15	119	114
890-1635-2	FS16	154 S1+	110
890-1635-3	FS17	161 S1+	115
890-1635-4	FS14	150 S1+	111
LCS 880-13362/1-A	Lab Control Sample	105	94
LCSD 880-13362/2-A	Lab Control Sample Dup	113	93
MB 880-13362/5-A	Method Blank	85	104

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)
890-1635-1	FS15	91	105
890-1635-1 MS	FS15	96	98
890-1635-1 MSD	FS15	96	96
890-1635-2	FS16	95	107
890-1635-3	FS17	96	110
890-1635-4	FS14	83	89
LCS 880-13730/2-A	Lab Control Sample	76	77
LCSD 880-13730/3-A	Lab Control Sample Dup	94	97
MB 880-13730/1-A	Method Blank	90	105

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-13362/5-A
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 13362

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 13:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 13:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 13:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/01/21 08:45	12/01/21 13:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/01/21 08:45	12/01/21 13:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/01/21 08:45	12/01/21 13:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/01/21 08:45*	*12/01/21 13:56*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/01/21 08:45*	*12/01/21 13:56*	*1*

Lab Sample ID: LCS 880-13362/1-A
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 13362

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09162		mg/Kg		92	70 - 130		
Toluene			0.100	0.1023		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.09786		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene			0.200	0.2177		mg/Kg		109	70 - 130		
o-Xylene			0.100	0.1009		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: LCSD 880-13362/2-A
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 13362

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09373		mg/Kg		94	70 - 130	2	35
Toluene			0.100	0.1043		mg/Kg		104	70 - 130	2	35
Ethylbenzene			0.100	0.1040		mg/Kg		104	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2247		mg/Kg		112	70 - 130	3	35
o-Xylene			0.100	0.1040		mg/Kg		104	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-1635-1 MS
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: FS15
Prep Type: Total/NA
Prep Batch: 13362

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U	0.100	0.08943		mg/Kg		89	70 - 130		
Toluene	<0.00200	U	0.100	0.1030		mg/Kg		103	70 - 130		

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

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

Lab Sample ID: 890-1635-1 MS
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: FS15
Prep Type: Total/NA
Prep Batch: 13362

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00200	U	0.100	0.09992		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.2191		mg/Kg		110	70 - 130
o-Xylene	<0.00200	U	0.100	0.1033		mg/Kg		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*143*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-1635-1 MSD
Matrix: Solid
Analysis Batch: 13606

Client Sample ID: FS15
Prep Type: Total/NA
Prep Batch: 13362

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	0.08847		mg/Kg		89	70 - 130	1	35
Toluene	<0.00200	U	0.0996	0.09828		mg/Kg		99	70 - 130	5	35
Ethylbenzene	<0.00200	U	0.0996	0.09313		mg/Kg		94	70 - 130	7	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2045		mg/Kg		103	70 - 130	7	35
o-Xylene	<0.00200	U	0.0996	0.09722		mg/Kg		98	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*

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

Lab Sample ID: MB 880-13730/1-A
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 13730

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		12/02/21 11:27	12/03/21 09:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/02/21 11:27	12/03/21 09:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/02/21 11:27	12/03/21 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*12/02/21 11:27*	*12/03/21 09:30*	*1*
o-Terphenyl	*105*		*70 - 130*	*12/02/21 11:27*	*12/03/21 09:30*	*1*

Lab Sample ID: LCS 880-13730/2-A
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 13730

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	756.7		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)			1000	746.3		mg/Kg		75	70 - 130

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QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

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

Lab Sample ID: LCS 880-13730/2-A
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 13730

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	76		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: LCSD 880-13730/3-A
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 13730

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	804.9		mg/Kg		80	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	848.7		mg/Kg		85	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: 890-1635-1 MS
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: FS15
Prep Type: Total/NA
Prep Batch: 13730

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	997	1081		mg/Kg		108	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1092		mg/Kg		106	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-1635-1 MSD
Matrix: Solid
Analysis Batch: 13825

Client Sample ID: FS15
Prep Type: Total/NA
Prep Batch: 13730

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1175		mg/Kg		118	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1107		mg/Kg		107	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	96		70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-13647/1-A
Matrix: Solid
Analysis Batch: 14304

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			12/09/21 01:33	1

Lab Sample ID: LCS 880-13647/2-A
Matrix: Solid
Analysis Batch: 14304

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	268.8		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-13647/3-A
Matrix: Solid
Analysis Batch: 14304

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	269.1		mg/Kg		108	90 - 110	0	20

Lab Sample ID: 890-1634-A-3-F MS
Matrix: Solid
Analysis Batch: 14304

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	<5.04	U F1	252	294.0	F1	mg/Kg		116	90 - 110		

Lab Sample ID: 890-1634-A-3-G MSD
Matrix: Solid
Analysis Batch: 14304

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	<5.04	U F1	252	294.6	F1	mg/Kg		116	90 - 110	0	20

Lab Sample ID: MB 880-13649/1-A
Matrix: Solid
Analysis Batch: 14366

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			12/09/21 17:57	1

Lab Sample ID: LCS 880-13649/2-A
Matrix: Solid
Analysis Batch: 14366

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	257.8		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-13649/3-A
Matrix: Solid
Analysis Batch: 14366

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	256.7		mg/Kg		103	90 - 110	0	20

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-1635-2 MS
Matrix: Solid
Analysis Batch: 14366

Client Sample ID: FS16
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	991		249	1261		mg/Kg		109	90 - 110		

Lab Sample ID: 890-1635-2 MSD
Matrix: Solid
Analysis Batch: 14366

Client Sample ID: FS16
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	991		249	1230		mg/Kg		96	90 - 110	3	20

QC Association Summary

Client: WSP USA Inc.
Job ID: 890-1635-1
Project/Site: PLU 293 Flow Line

GC VOA

Prep Batch: 13362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	5035	
890-1635-2	FS16	Total/NA	Solid	5035	
890-1635-3	FS17	Total/NA	Solid	5035	
890-1635-4	FS14	Total/NA	Solid	5035	
MB 880-13362/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-13362/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-13362/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1635-1 MS	FS15	Total/NA	Solid	5035	
890-1635-1 MSD	FS15	Total/NA	Solid	5035	

Analysis Batch: 13606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	8021B	13362
890-1635-2	FS16	Total/NA	Solid	8021B	13362
890-1635-3	FS17	Total/NA	Solid	8021B	13362
890-1635-4	FS14	Total/NA	Solid	8021B	13362
MB 880-13362/5-A	Method Blank	Total/NA	Solid	8021B	13362
LCS 880-13362/1-A	Lab Control Sample	Total/NA	Solid	8021B	13362
LCSD 880-13362/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	13362
890-1635-1 MS	FS15	Total/NA	Solid	8021B	13362
890-1635-1 MSD	FS15	Total/NA	Solid	8021B	13362

Analysis Batch: 13868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	Total BTEX	
890-1635-2	FS16	Total/NA	Solid	Total BTEX	
890-1635-3	FS17	Total/NA	Solid	Total BTEX	
890-1635-4	FS14	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 13730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	8015NM Prep	
890-1635-2	FS16	Total/NA	Solid	8015NM Prep	
890-1635-3	FS17	Total/NA	Solid	8015NM Prep	
890-1635-4	FS14	Total/NA	Solid	8015NM Prep	
MB 880-13730/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-13730/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-13730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1635-1 MS	FS15	Total/NA	Solid	8015NM Prep	
890-1635-1 MSD	FS15	Total/NA	Solid	8015NM Prep	

Analysis Batch: 13825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	8015B NM	13730
890-1635-2	FS16	Total/NA	Solid	8015B NM	13730
890-1635-3	FS17	Total/NA	Solid	8015B NM	13730
890-1635-4	FS14	Total/NA	Solid	8015B NM	13730
MB 880-13730/1-A	Method Blank	Total/NA	Solid	8015B NM	13730
LCS 880-13730/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	13730

QC Association Summary

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

GC Semi VOA (Continued)

Analysis Batch: 13825 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-13730/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	13730
890-1635-1 MS	FS15	Total/NA	Solid	8015B NM	13730
890-1635-1 MSD	FS15	Total/NA	Solid	8015B NM	13730

Analysis Batch: 14112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Total/NA	Solid	8015 NM	
890-1635-2	FS16	Total/NA	Solid	8015 NM	
890-1635-3	FS17	Total/NA	Solid	8015 NM	
890-1635-4	FS14	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 13647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Soluble	Solid	DI Leach	
MB 880-13647/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13647/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13647/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1634-A-3-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1634-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 13649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-2	FS16	Soluble	Solid	DI Leach	
890-1635-3	FS17	Soluble	Solid	DI Leach	
890-1635-4	FS14	Soluble	Solid	DI Leach	
MB 880-13649/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-13649/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-13649/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1635-2 MS	FS16	Soluble	Solid	DI Leach	
890-1635-2 MSD	FS16	Soluble	Solid	DI Leach	

Analysis Batch: 14304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-1	FS15	Soluble	Solid	300.0	13647
MB 880-13647/1-A	Method Blank	Soluble	Solid	300.0	13647
LCS 880-13647/2-A	Lab Control Sample	Soluble	Solid	300.0	13647
LCSD 880-13647/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13647
890-1634-A-3-F MS	Matrix Spike	Soluble	Solid	300.0	13647
890-1634-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	13647

Analysis Batch: 14366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-2	FS16	Soluble	Solid	300.0	13649
890-1635-3	FS17	Soluble	Solid	300.0	13649
890-1635-4	FS14	Soluble	Solid	300.0	13649
MB 880-13649/1-A	Method Blank	Soluble	Solid	300.0	13649
LCS 880-13649/2-A	Lab Control Sample	Soluble	Solid	300.0	13649
LCSD 880-13649/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	13649
890-1635-2 MS	FS16	Soluble	Solid	300.0	13649

QC Association Summary

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

HPLC/IC (Continued)

Analysis Batch: 14366 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1635-2 MSD	FS16	Soluble	Solid	300.0	13649

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1635-1
Project/Site: PLU 293 Flow Line

Client Sample ID: FS15 Lab Sample ID: 890-1635-1

Date Collected: 11/22/21 16:10 **Matrix: Solid**
Date Received: 11/24/21 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			13362	12/01/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	13606	12/01/21 14:23	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	13868	12/03/21 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			13730	12/02/21 11:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	13825	12/03/21 10:34	AJ	XEN MID
Soluble	Leach	DI Leach			13647	12/01/21 11:21	CA	XEN MID
Soluble	Analysis	300.0		5	14304	12/09/21 03:46	CH	XEN MID

Client Sample ID: FS16 Lab Sample ID: 890-1635-2

Date Collected: 11/22/21 16:00 **Matrix: Solid**
Date Received: 11/24/21 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			13362	12/01/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	13606	12/01/21 14:49	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	13868	12/03/21 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			13730	12/02/21 11:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	13825	12/03/21 11:38	AJ	XEN MID
Soluble	Leach	DI Leach			13649	12/01/21 11:25	CA	XEN MID
Soluble	Analysis	300.0		1	14366	12/09/21 18:22	CH	XEN MID

Client Sample ID: FS17 Lab Sample ID: 890-1635-3

Date Collected: 11/22/21 16:05 **Matrix: Solid**
Date Received: 11/24/21 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			13362	12/01/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	13606	12/01/21 15:16	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	13868	12/03/21 10:31	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			13730	12/02/21 11:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	13825	12/03/21 11:58	AJ	XEN MID
Soluble	Leach	DI Leach			13649	12/01/21 11:25	CA	XEN MID
Soluble	Analysis	300.0		1	14366	12/09/21 18:47	CH	XEN MID

Client Sample ID: FS14 Lab Sample ID: 890-1635-4

Date Collected: 11/22/21 10:00 **Matrix: Solid**
Date Received: 11/24/21 10:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			13362	12/01/21 08:45	KL	XEN MID
Total/NA	Analysis	8021B		1	13606	12/01/21 15:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	13868	12/03/21 10:31	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Client Sample ID: FS14
Date Collected: 11/22/21 10:00
Date Received: 11/24/21 10:48

Lab Sample ID: 890-1635-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	14112	12/06/21 15:44	AJ	XEN MID
Total/NA	Prep	8015NM Prep			13730	12/02/21 11:27	DM	XEN MID
Total/NA	Analysis	8015B NM		1	13825	12/03/21 12:19	AJ	XEN MID
Soluble	Leach	DI Leach			13649	12/01/21 11:25	CA	XEN MID
Soluble	Analysis	300.0		10	14366	12/09/21 18:56	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1635-1
Project/Site: PLU 293 Flow Line

Laboratory: Eurofins Xenco, Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: PLU 293 Flow Line

Job ID: 890-1635-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1635-1	FS15	Solid	11/22/21 16:10	11/24/21 10:48	0.5
890-1635-2	FS16	Solid	11/22/21 16:00	11/24/21 10:48	0.5
890-1635-3	FS17	Solid	11/22/21 16:05	11/24/21 10:48	0.5
890-1635-4	FS14	Solid	11/22/21 10:00	11/24/21 10:48	0.5

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: _____

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12/10/2021

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	conner.shore@wsp.com; tacoma.morrissey@wsp.com

Work Order Comments

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

Project Name:	PLU 293 Flow Line	Turn Around	
Project Number:		Routine	☑
P.O. Number:	CC: 1139243001	Rush:	
Sampler's Name:	Conner Shore	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	1.4 / 1.2	Thermometer ID	TMN007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

ANALYSIS REQUEST

890-1635 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS15	s	11/22/2021	16:10	0.5	1	x	x	x	Composite
FS16	s	11/22/2021	16:00	0.5	1	x	x	x	Composite
FS17	s	11/22/2021	16:05	0.5	1	x	x	x	Composite
~~FS14~~	s	~~11/22/2021~~	~~10:00~~	0.5	1	x	x	x	Composite

Work Order Notes

Incident #: NAPP2126045826

API:30-015-34877

(Poker Lake Unit #261)

TAT starts the day recevied by the lab, if received by 4:30pm

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 SiO2 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 **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	CSa		11-24-21 1048			
3				4		
5				6		

Revised Date 051418 Rev 2018 1

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-523 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica kramer@eurofinset com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-1635-1
Address: 1211 W Florida Ave	Due Date Requested: 12/3/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 293 Flow Line	Project #: 89000004			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X							
FS15 (890-1635-1)	11/22/21	16 10 Mountain		Solid			X	X	X	X	X	1	
FS16 (890-1635-2)	11/22/21	16 00 Mountain		Solid			X	X	X	X	X	1	
FS17 (890-1635-3)	11/22/21	16 05 Mountain		Solid			X	X	X	X	X	1	
FS14 (890-1635-4)	11/22/21	10 00 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	N-Dan	11/29/21		J Kramer	11.29.21	
2	Relinquished by	Date/Time	Company	Received by	Date/Time 230	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 3.2/3.3

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1635-1
SDG Number:

Login Number: 1635
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco, Carlsbad

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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1635-1
SDG Number:

Login Number: 1635
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 11/29/21 02:35 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-1805-1
Client Project/Site: plu 293 flow line
Revision: 1

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
1/20/2022 2:57:39 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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

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

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Laboratory Job ID: 890-1805-1

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Definitions/Glossary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
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: WSP USA Inc. Job ID: 890-1805-1
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-1805-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 1/10/2022. The report (revision 1) is being revised due to: Per client email, corrected sample depth for FS14A to 1.

Receipt
The samples were received on 1/6/2022 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 was 3.8º C.

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

GC Semi VOA
Method 8015B NM: The CCV was biased slightly low for the gasoline hydrocarbon ranges however another acceptable CCV for this range was analyzed within the 12 hour window, therefore, the data was qualified and reported.

(CCV 880-16215/19)

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

General Chemistry
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-16226 and analytical batch 880-16239 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.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Client Sample ID: SW06

Date Collected: 01/05/22 12:00
Date Received: 01/06/22 13:42
Sample Depth: 0 - 3

Lab Sample ID: 890-1805-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:21	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:21	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 13:21	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:21	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 13:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*01/07/22 08:00*	*01/07/22 13:21*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*01/07/22 08:00*	*01/07/22 13:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/07/22 14:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**91.2**		49.9		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 08:53	01/07/22 13:44	1
Diesel Range Organics (Over C10-C28)	**91.2**		49.9		mg/Kg		01/07/22 08:53	01/07/22 13:44	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 08:53	01/07/22 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*01/07/22 08:53*	*01/07/22 13:44*	*1*
o-Terphenyl	*92*		*70 - 130*	*01/07/22 08:53*	*01/07/22 13:44*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1160**		5.05		mg/Kg			01/07/22 14:38	1

Client Sample ID: SW07

Date Collected: 01/05/22 12:05
Date Received: 01/06/22 13:42
Sample Depth: 0 - 3

Lab Sample ID: 890-1805-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:41	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:41	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 13:41	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 08:00	01/07/22 13:41	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 08:00	01/07/22 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*01/07/22 08:00*	*01/07/22 13:41*	*1*

Eurofins Carlsbad

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1805-1
Project/Site: plu 293 flow line

Client Sample ID: SW07 — Lab Sample ID: 890-1805-2

Date Collected: 01/05/22 12:05 **Matrix: Solid**
Date Received: 01/06/22 13:42
Sample Depth: 0 - 3

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*01/07/22 08:00*	*01/07/22 13:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/07/22 14:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/07/22 08:53	01/07/22 14:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/07/22 08:53	01/07/22 14:24	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/07/22 08:53	01/07/22 14:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*01/07/22 08:53*	*01/07/22 14:24*	*1*
o-Terphenyl	*90*		*70 - 130*	*01/07/22 08:53*	*01/07/22 14:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**618**		4.98	mg/Kg			01/07/22 14:46	1

Client Sample ID: FS14A — Lab Sample ID: 890-1805-3

Date Collected: 01/05/22 12:10 **Matrix: Solid**
Date Received: 01/06/22 13:42
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/07/22 08:00	01/07/22 14:01	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/07/22 08:00	01/07/22 14:01	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/07/22 08:00	01/07/22 14:01	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/07/22 08:00	01/07/22 14:01	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/07/22 08:00	01/07/22 14:01	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/07/22 08:00	01/07/22 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*01/07/22 08:00*	*01/07/22 14:01*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*01/07/22 08:00*	*01/07/22 14:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			01/07/22 14:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/10/22 12:40	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Client Sample ID: FS14A
Date Collected: 01/05/22 12:10
Date Received: 01/06/22 13:42
Sample Depth: 1

Lab Sample ID: 890-1805-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 14:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 14:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*01/07/22 08:53*	*01/07/22 14:49*	*1*
o-Terphenyl	*95*		*70 - 130*	*01/07/22 08:53*	*01/07/22 14:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.1**		4.95		mg/Kg			01/07/22 14:54	1

Client Sample ID: FS29
Date Collected: 01/05/22 12:20
Date Received: 01/06/22 13:42
Sample Depth: 0.5

Lab Sample ID: 890-1805-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 14:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 14:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 14:22	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/07/22 08:00	01/07/22 14:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 14:22	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/07/22 08:00	01/07/22 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*01/07/22 08:00*	*01/07/22 14:22*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*01/07/22 08:00*	*01/07/22 14:22*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/07/22 14:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**91.7**		50.0		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 15:09	1
Diesel Range Organics (Over C10-C28)	**91.7**		50.0		mg/Kg		01/07/22 08:53	01/07/22 15:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 15:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*01/07/22 08:53*	*01/07/22 15:09*	*1*
o-Terphenyl	*87*		*70 - 130*	*01/07/22 08:53*	*01/07/22 15:09*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Client Sample ID: FS29
Date Collected: 01/05/22 12:20
Date Received: 01/06/22 13:42
Sample Depth: 0.5

Lab Sample ID: 890-1805-4
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2220**		24.8		mg/Kg			01/07/22 17:00	5

Client Sample ID: FS30
Date Collected: 01/05/22 12:30
Date Received: 01/06/22 13:42
Sample Depth: 0.5

Lab Sample ID: 890-1805-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 14:42	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 14:42	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 14:42	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		01/07/22 08:00	01/07/22 14:42	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/07/22 08:00	01/07/22 14:42	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		01/07/22 08:00	01/07/22 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*01/07/22 08:00*	*01/07/22 14:42*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*01/07/22 08:00*	*01/07/22 14:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			01/07/22 14:59	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**99.9**		50.0		mg/Kg			01/10/22 12:40	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 15:29	1
Diesel Range Organics (Over C10-C28)	**99.9**		50.0		mg/Kg		01/07/22 08:53	01/07/22 15:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*01/07/22 08:53*	*01/07/22 15:29*	*1*
o-Terphenyl	*92*		*70 - 130*	*01/07/22 08:53*	*01/07/22 15:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1270**		5.00		mg/Kg			01/07/22 15:10	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-1805-1	SW06	113	85
890-1805-1 MS	SW06	111	100
890-1805-1 MSD	SW06	104	95
890-1805-2	SW07	118	99
890-1805-3	FS14A	127	92
890-1805-4	FS29	144 S1+	97
890-1805-5	FS30	118	99
LCS 880-16163/1-A	Lab Control Sample	108	98
LCSD 880-16163/2-A	Lab Control Sample Dup	107	93
MB 880-16163/5-A	Method Blank	120	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-9941-A-61-E MS	Matrix Spike	76	80
880-9941-A-61-F MSD	Matrix Spike Duplicate	86	88
890-1805-1	SW06	85	92
890-1805-2	SW07	82	90
890-1805-3	FS14A	84	95
890-1805-4	FS29	78	87
890-1805-5	FS30	82	92
LCS 880-16210/2-A	Lab Control Sample	97	104
LCSD 880-16210/3-A	Lab Control Sample Dup	105	113
MB 880-16210/1-A	Method Blank	91	108

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16163/5-A
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16163

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 08:00	01/07/22 11:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 08:00	01/07/22 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*01/07/22 08:00*	*01/07/22 11:30*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*01/07/22 08:00*	*01/07/22 11:30*	*1*

Lab Sample ID: LCS 880-16163/1-A
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16163

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09195		mg/Kg		92	70 - 130		
Toluene			0.100	0.09439		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.1051		mg/Kg		105	70 - 130		
m-Xylene & p-Xylene			0.200	0.1991		mg/Kg		100	70 - 130		
o-Xylene			0.100	0.09446		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-16163/2-A
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16163

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09529		mg/Kg		95	70 - 130	4	35
Toluene			0.100	0.1011		mg/Kg		101	70 - 130	7	35
Ethylbenzene			0.100	0.1017		mg/Kg		102	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1942		mg/Kg		97	70 - 130	2	35
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130	6	35

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

Lab Sample ID: 890-1805-1 MSD
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: SW06
Prep Type: Total/NA
Prep Batch: 16163

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	0.09925		mg/Kg					
Toluene	<0.00201	U	0.100	0.1053		mg/Kg					

QC Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

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

Lab Sample ID: 890-1805-1 MSD
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: SW06
Prep Type: Total/NA
Prep Batch: 16163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00201	U	0.100	0.1019		mg/Kg					
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1981		mg/Kg					
o-Xylene	<0.00201	U	0.100	0.09328		mg/Kg					

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-1805-1 MS
Matrix: Solid
Analysis Batch: 16202

Client Sample ID: SW06
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

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

Lab Sample ID: MB 880-16210/1-A
Matrix: Solid
Analysis Batch: 16215

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16210

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		01/07/22 08:53	01/07/22 11:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 11:13	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 08:53	01/07/22 11:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*01/07/22 08:53*	*01/07/22 11:13*	*1*
o-Terphenyl	*108*		*70 - 130*	*01/07/22 08:53*	*01/07/22 11:13*	*1*

Lab Sample ID: LCS 880-16210/2-A
Matrix: Solid
Analysis Batch: 16215

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16210

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	752.8		mg/Kg		75	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	949.7		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

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

Lab Sample ID: LCSD 880-16210/3-A
Matrix: Solid
Analysis Batch: 16215

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16210

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	858.9		mg/Kg		86	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	1156		mg/Kg		116	70 - 130	20	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*113*		*70 - 130*

Lab Sample ID: 880-9941-A-61-E MS
Matrix: Solid
Analysis Batch: 16215

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16210

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	996	813.9		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	995.7		mg/Kg		97	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*76*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 880-9941-A-61-F MSD
Matrix: Solid
Analysis Batch: 16215

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16210

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	870.1		mg/Kg		86	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1112		mg/Kg		108	70 - 130	11	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16226/1-A
Matrix: Solid
Analysis Batch: 16239

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			01/07/22 09:46	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-16226/2-A
Matrix: Solid
Analysis Batch: 16239

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	233.7		mg/Kg		93	90 - 110		

Lab Sample ID: LCSD 880-16226/3-A
Matrix: Solid
Analysis Batch: 16239

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	235.0		mg/Kg		94	90 - 110	1	20

Lab Sample ID: 890-1805-5 MS
Matrix: Solid
Analysis Batch: 16239

Client Sample ID: FS30
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1270		250	1467	4	mg/Kg		78	90 - 110		

Lab Sample ID: 890-1805-5 MSD
Matrix: Solid
Analysis Batch: 16239

Client Sample ID: FS30
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1270		250	1446	4	mg/Kg		70	90 - 110	1	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

GC VOA

Prep Batch: 16163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	5035	
890-1805-2	SW07	Total/NA	Solid	5035	
890-1805-3	FS14A	Total/NA	Solid	5035	
890-1805-4	FS29	Total/NA	Solid	5035	
890-1805-5	FS30	Total/NA	Solid	5035	
MB 880-16163/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16163/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16163/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1805-1 MSD	SW06	Total/NA	Solid	5035	

Analysis Batch: 16202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	8021B	16163
890-1805-2	SW07	Total/NA	Solid	8021B	16163
890-1805-3	FS14A	Total/NA	Solid	8021B	16163
890-1805-4	FS29	Total/NA	Solid	8021B	16163
890-1805-5	FS30	Total/NA	Solid	8021B	16163
MB 880-16163/5-A	Method Blank	Total/NA	Solid	8021B	16163
LCS 880-16163/1-A	Lab Control Sample	Total/NA	Solid	8021B	16163
LCSD 880-16163/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16163
890-1805-1 MS	SW06	Total/NA	Solid	8021B	
890-1805-1 MSD	SW06	Total/NA	Solid	8021B	16163

Analysis Batch: 16289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	Total BTEX	
890-1805-2	SW07	Total/NA	Solid	Total BTEX	
890-1805-3	FS14A	Total/NA	Solid	Total BTEX	
890-1805-4	FS29	Total/NA	Solid	Total BTEX	
890-1805-5	FS30	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 16210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	8015NM Prep	
890-1805-2	SW07	Total/NA	Solid	8015NM Prep	
890-1805-3	FS14A	Total/NA	Solid	8015NM Prep	
890-1805-4	FS29	Total/NA	Solid	8015NM Prep	
890-1805-5	FS30	Total/NA	Solid	8015NM Prep	
MB 880-16210/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16210/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9941-A-61-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9941-A-61-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	8015B NM	16210
890-1805-2	SW07	Total/NA	Solid	8015B NM	16210
890-1805-3	FS14A	Total/NA	Solid	8015B NM	16210

QC Association Summary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

GC Semi VOA (Continued)

Analysis Batch: 16215 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-4	FS29	Total/NA	Solid	8015B NM	16210
890-1805-5	FS30	Total/NA	Solid	8015B NM	16210
MB 880-16210/1-A	Method Blank	Total/NA	Solid	8015B NM	16210
LCS 880-16210/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16210
LCSD 880-16210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16210
880-9941-A-61-E MS	Matrix Spike	Total/NA	Solid	8015B NM	16210
880-9941-A-61-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16210

Analysis Batch: 16428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Total/NA	Solid	8015 NM	
890-1805-2	SW07	Total/NA	Solid	8015 NM	
890-1805-3	FS14A	Total/NA	Solid	8015 NM	
890-1805-4	FS29	Total/NA	Solid	8015 NM	
890-1805-5	FS30	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Soluble	Solid	DI Leach	
890-1805-2	SW07	Soluble	Solid	DI Leach	
890-1805-3	FS14A	Soluble	Solid	DI Leach	
890-1805-4	FS29	Soluble	Solid	DI Leach	
890-1805-5	FS30	Soluble	Solid	DI Leach	
MB 880-16226/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16226/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16226/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1805-5 MS	FS30	Soluble	Solid	DI Leach	
890-1805-5 MSD	FS30	Soluble	Solid	DI Leach	

Analysis Batch: 16239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1805-1	SW06	Soluble	Solid	300.0	16226
890-1805-2	SW07	Soluble	Solid	300.0	16226
890-1805-3	FS14A	Soluble	Solid	300.0	16226
890-1805-4	FS29	Soluble	Solid	300.0	16226
890-1805-5	FS30	Soluble	Solid	300.0	16226
MB 880-16226/1-A	Method Blank	Soluble	Solid	300.0	16226
LCS 880-16226/2-A	Lab Control Sample	Soluble	Solid	300.0	16226
LCSD 880-16226/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16226
890-1805-5 MS	FS30	Soluble	Solid	300.0	16226
890-1805-5 MSD	FS30	Soluble	Solid	300.0	16226

Lab Chronicle

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Client Sample ID: SW06
Date Collected: 01/05/22 12:00
Date Received: 01/06/22 13:42

Lab Sample ID: 890-1805-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	16202	01/07/22 13:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16289	01/07/22 14:59	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16210	01/07/22 08:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16215	01/07/22 13:44	AJ	XEN MID
Soluble	Leach	DI Leach			16226	01/07/22 09:00	CH	XEN MID
Soluble	Analysis	300.0		1	16239	01/07/22 14:38	CH	XEN MID

Client Sample ID: SW07
Date Collected: 01/05/22 12:05
Date Received: 01/06/22 13:42

Lab Sample ID: 890-1805-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	16202	01/07/22 13:41	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16289	01/07/22 14:59	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16210	01/07/22 08:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16215	01/07/22 14:24	AJ	XEN MID
Soluble	Leach	DI Leach			16226	01/07/22 09:00	CH	XEN MID
Soluble	Analysis	300.0		1	16239	01/07/22 14:46	CH	XEN MID

Client Sample ID: FS14A
Date Collected: 01/05/22 12:10
Date Received: 01/06/22 13:42

Lab Sample ID: 890-1805-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	16202	01/07/22 14:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16289	01/07/22 14:59	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16210	01/07/22 08:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16215	01/07/22 14:49	AJ	XEN MID
Soluble	Leach	DI Leach			16226	01/07/22 09:00	CH	XEN MID
Soluble	Analysis	300.0		1	16239	01/07/22 14:54	CH	XEN MID

Client Sample ID: FS29
Date Collected: 01/05/22 12:20
Date Received: 01/06/22 13:42

Lab Sample ID: 890-1805-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	16202	01/07/22 14:22	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16289	01/07/22 14:59	KL	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Client Sample ID: FS29

Lab Sample ID: 890-1805-4
Matrix: Solid
Date Collected: 01/05/22 12:20
Date Received: 01/06/22 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16210	01/07/22 08:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16215	01/07/22 15:09	AJ	XEN MID
Soluble	Leach	DI Leach			16226	01/07/22 09:00	CH	XEN MID
Soluble	Analysis	300.0		5	16239	01/07/22 17:00	CH	XEN MID

Client Sample ID: FS30

Lab Sample ID: 890-1805-5
Matrix: Solid
Date Collected: 01/05/22 12:30
Date Received: 01/06/22 13:42

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			16163	01/07/22 08:00	KL	XEN MID
Total/NA	Analysis	8021B		1	16202	01/07/22 14:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	16289	01/07/22 14:59	KL	XEN MID
Total/NA	Analysis	8015 NM		1	16428	01/10/22 12:40	AJ	XEN MID
Total/NA	Prep	8015NM Prep			16210	01/07/22 08:53	DM	XEN MID
Total/NA	Analysis	8015B NM		1	16215	01/07/22 15:29	AJ	XEN MID
Soluble	Leach	DI Leach			16226	01/07/22 09:00	CH	XEN MID
Soluble	Analysis	300.0		1	16239	01/07/22 15:10	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Job ID: 890-1805-1
Project/Site: plu 293 flow line

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: plu 293 flow line

Job ID: 890-1805-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1805-1	SW06	Solid	01/05/22 12:00	01/06/22 13:42	0 - 3
890-1805-2	SW07	Solid	01/05/22 12:05	01/06/22 13:42	0 - 3
890-1805-3	FS14A	Solid	01/05/22 12:10	01/06/22 13:42	1
890-1805-4	FS29	Solid	01/05/22 12:20	01/06/22 13:42	0.5
890-1805-5	FS30	Solid	01/05/22 12:30	01/06/22 13:42	0.5

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Litrell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79707	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849 Email:		Alexis.Castro@wsp.com, Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	PLU 293 Flow Line	Turn Around	
Project Number:		Routine ☐	
P.O. Number:		Rush: 24hr	
Sampler's Name:	Alexis Castro	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.0/3.8	Thermometer ID	TWM-007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
SW06	S	01/05/2022	1200	0-3'	1	x	x	x	COMPOSITE
SW07	S	01/05/2022	1205	0-3'	1	x	x	x	COMPOSITE
FS14A	S	01/05/2022	1210	3'	1	x	x	x	COMPOSITE
FS29	S	01/05/2022	1220	0.5'	1	x	x	x	COMPOSITE
FS30	S	01/05/2022	1230	0.5'	1	x	x	x	COMPOSITE

890-1805 Chain of Custody

Work Order Notes

INC: NAPP2126045826

TAT starts the day recevied by the lab, if received by 4:30pm

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 SiO2 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 **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2	1.6.22 1142	3		
4	5		6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc. Job Number: 890-1805-1

Login Number: 1805 **List Source: Eurofins Carlsbad**
List Number: 1
Creator: Clifton, Cloe

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

Login Sample Receipt Checklist

Client: WSP USA Inc. Job Number: 890-1805-1

Login Number: 1805
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/07/22 12:52 PM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

From: Green, Garrett J
To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 11/14/22 - 11/18/22)
Date: Thursday, November 10, 2022 6:40:06 PM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Nov 14, 2022.

Monday
- BEU DI 30 Battery/ NAPP2200746777

Tuesday
- BEU DI 30 Battery/ NAPP2200746777
- PLU 89 / NRM1932350962

Wednesday
- BEU DI 30 Battery/ NAPP2200746777
- PLU 89 / NRM1932350962

Thursday
- PLU 293 Flow Line/ NAPP2126045826
- Big Sinks 2-24-30 Battery/ NAB1913729531

Friday
- Big Sinks 2-24-30 Battery/ NAB1913729531

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

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 169467

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 169467
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
csmith	OCD Accepts for record the “Deferral Request” submitted on 12/21/22. The areas not reclaimed directly north of the Poker Lake Unit Battery #261 tank battery are needed for current production operations and therefore OCD approved the discrete areas to be reclaimed when they are no longer needed for production operations pursuant to 19.15.29.13.B. At the time of this acceptance the below list of wells are tied to the current production operations. While these areas are approved to be reclaimed at a later date, XTO must ensure they meet the requirements of 19.15.29.13.B and “Areas reasonably needed for production operations or for subsequent drilling operations must be compacted, covered, paved or otherwise stabilized and maintained in such a way as to minimize dust and erosion to the extent practical.” • PLU 041, 30-015-20933 • PLU 291, 30-015-35546 • PLU 293H, 30-015-38112 • PLU 326H, 30-015-39479 • PLU 362H, 30-015-40799 • PLU 430H (potash well), 30-015-42374 • PLU 431H, 30-015-42246	5/9/2024