Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217544243
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: __Garrett Green_____ Date: __09/08/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 09/07/2022

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

Closure Approved by: Robert Hamlet Date: 12/6/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2217544243
District RP	
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Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.21037 Longitude -103.89997
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Poker Lake Unit 20-24-30	Site Type Tank Battery
Date Release Discovered 06/10/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	20	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) 8.25	Volume Recovered (bbls) 8.25
☒ Produced Water	Volume Released (bbls) 66.00	Volume Recovered (bbls) 66.00
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Corrosion caused a hole in the FWKO to release fluids into impermeable containment. A vacuum truck recovered all fluids. A 48-hour liner inspection notice was sent to NMOCD Distrct 2. Liner was visually inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release 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 Adrian Baker to ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; NobuiJennifer, EMNRD on Saturday, June 11, 2022 8:06 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: Garrett Green
Title: SSHE Coordinator
Signature: Garrett Green
Date: 06/24/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 06/24/2022

Location:	Poker Lake Unit 20-24-30 Battery	
Spill Date:	6/10/2022	
Area 1		
Approximate Area =	416.88	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	8.25	bbls
Total Produced Water =	66.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**8.25**	**bbls**
Total Produced Water =	**66.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**8.25**	**bbls**
Total Produced Water =	**66.00**	**bbls**

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217544243
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Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217544243
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Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:_____ _____ Date: ____09/08/2022_____

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

OCD Only

Received by: ____Jocelyn Harimon_____ Date: __09/07/2022____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2217544243
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Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: __  _____ Date: __09/08/2022_____

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

OCD Only

Received by: Jocelyn Harimon Date: 09/07/2022

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

September 8, 2022

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

Re: Closure Request
Poker Lake Unit 20-24-30
Incident Number NAPP2217544243
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this Closure Request to document site assessment and soil sampling activities performed at the Poker Lake Unit 20-24-30 (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of crude oil and produced water within lined containment at the Site. Based on field observations, field screening activities, and laboratory analytical results, XTO is submitting this Closure Request and requesting no further action for Incident Number NAPP2217544243.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 20, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.18183° N, 103.83299°W) and is associated with oil and gas exploration and production operations on Federal Land managed by Bureau of Land Management (BLM).

On June 10, 2022, corrosion created a hole in the free-water knockout (FWKO) equipment resulting in the release of approximately 8.25 barrels (bbls) of crude oil and 66 barrels of produced water into the lined containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; all 74.25 bbls of fluid were recovered from within the lined containment. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on June 11, 2022. A 48-hour advance notice of liner inspection was provided via email to the NMOCD District II office. A liner integrity inspection was conducted by XTO personnel following the fluid recovery and upon inspection, the liner was determined to be insufficient. A Release Notification Form C-141 (Form C-141) was submitted to the NMOCD on June 24, 2022. The release was assigned Incident Number NAPP2217544243.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest permitted well with depth to groundwater data. The nearest depth to groundwater well is New Mexico Office of the State Engineer (NMOSE) well C-03960 located is approximately 0.9 miles southeast of the Site and is depicted on Figure 1. The well has a recoreded depth to water of 250 feet bgs and a total depth of 475 feet bgs. The Well Record and Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 1,050 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On July 28, 2022 and August 4, 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Four assessment samples (SS01 through SS04) were collected around the lined containment from a depth of 0.5 feet bgs to confirm the lateral extent of the release. Ensolum personnel then advanced one borehole (BH01) via hand-auger at the location of the tear in the liner identified during the liner integrity inspection. Soil from the borehole was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix B. Discrete delineation soil samples were collected from the borehole at depths ranging from 0.5 feet bgs to 7 feet bgs. The borehole was backfilled with soil removed and a XTO contractor repaired the tear in the liner. The borehole and soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Appendix C.

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

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples from borehole BH01 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure

Criteria. In addition, the terminal sample from the borehole, BH01B collected at 7 feet bgs is compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Appendix D.

CLOSURE REQUEST

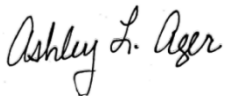
Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the June 10, 2022, crude oil and produced water release within lined containment. Three delineation soil samples were collected from borehole BH01, at depths of approximately 0.5 feet bgs, 1-foot bgs and 7 feet bgs. Laboratory analytical results for the delineation soil samples indicated that benzene, BTEX, TPH-DRO/TPH-GRO, TPH and chloride concentrations were compliant with the Site Closure Criteria. Additionally, laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the most stringent Table 1 Closure Criteria. The release was contained laterally by the lined containment and all released fluids were recovered during initial response activities. The tear in the liner was subsequently repaired.

Based on initial response efforts, depth to groundwater greater than 100 feet bgs, and soil sample laboratory analytical results compliant with the Closure Criteria directly beneath the tear in the liner, XTO respectfully requests closure for Incident Number NAPP2217544243.

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

Sincerely,
Ensolum, LLC

Tacoma Morrissey
Senior Geologist



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

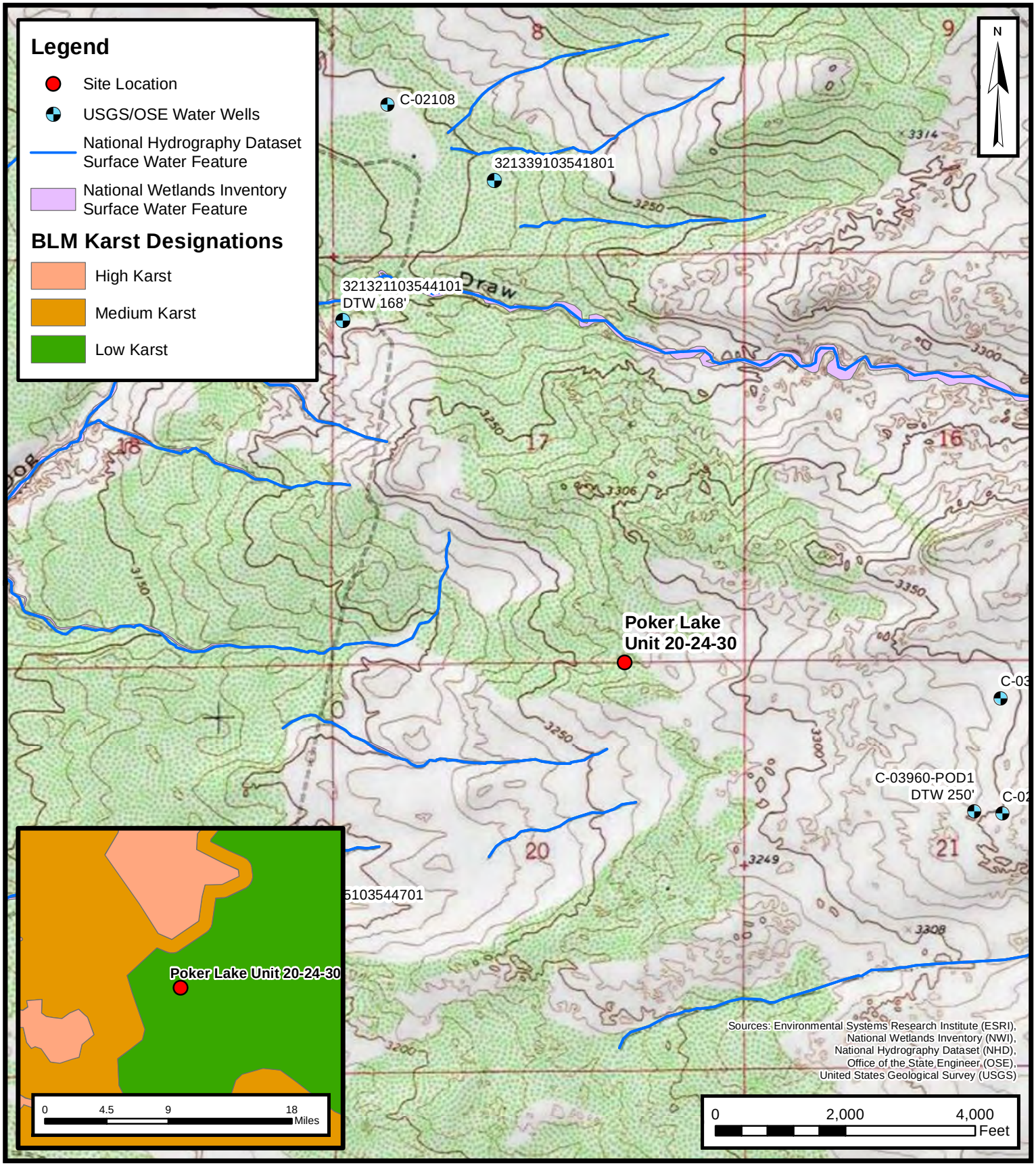
cc: Garrett Green, XTO
Shelby Pennington, XTO
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Well Record and Log
Appendix B	Lithologic Soil Sampling Logs
Appendix C	Photographic Log
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications

ENSOLUM

FIGURES



ENSOLUM

Site Location Map

Poker Lake Unit 20-24-30
XTO Energy, Inc
Incident Number NAPP2217544243
Unit B Sec 20 T24S and R30E
Eddy County, NM

FIGURE

1

Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\3 - Carlsbad\XTO Energy\03E1558088 - Poker Lake Unit 20-24-30\1 - MXDs\Figure 2. Delineation Soil Sample Location.mxd

ENSOLUM

Delineation Soil Sample Locations

Poker Lake Unit 20-24-30
XTO Energy, Inc
Incident Number NAPP2217544243
Unit B Sec 20 T24S and R30E
Eddy County, NM

FIGURE
2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Poker Lake Unit 20-24-30
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**
Delineation Soil Samples										
SS01	7/28/2022	0.2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	76.1
SS02	7/28/2022	0.2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	7.74
SS03	7/28/2022	0.2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	68.5
SS04	7/28/2022	0.2	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	159
BH01	8/4/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	3,780
BH01A	8/4/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,100
BH01B	8/4/2022	7	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	215

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.

GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NUMBER (WELL NUMBER)	OSE FILE NUMBER(S)
1	C-3960
WELL OWNER NAME(S)	**PHONE (OPTIONAL)**
BUREAU OF LAND MANAGEMENT	
WELL OWNER MAILING ADDRESS	**CITY / STATE / ZIP**
620 E. GREENE STREET	CARLSBAD NM 88220

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	12	519 31.14	N
	LONGITUDE	103	53	511 30.76	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

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

SECTION 21 TOWNSHIP 24 S. RANGE 30 S.

2. DRILLING & CASING INFORMATION

LICENSE NUMBER	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1753	JACOBO FRIESSEN	VANGUARD WATER WELLS

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)	STATIC WATER LEVEL IN COMPLETED WELL (FT)
11-12-16	11-12-16	475	475	250	200

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

DRILLING FLUID: ☐ AIR ☑ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	250	11	STEEL BLANK	THREAD	6	.322	
250	290	11	STEEL SCREEN	THREAD	6	.25	.030
290	395	11	STEEL BLANK	THREAD	6	.322	
395	435	11	STEEL SCREEN	THREAD	6	.25	.030
435	475	11	STEEL BLANK	THREAD	6	.322	

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
0	20	11	CONCRETE	9	POURD
20	220	11	3/8 GRAVEL	93	POURED
220	310	11	SILCA SAND	41	POURED
310	370	11	3/8 GRAVEL	28	POURED
370	475	11	SILCA SAND	48	POURED

FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 10/29/15)

FILE NUMBER	C-3960	POD NUMBER	1	TRN NUMBER	588952
LOCATION	24.30.21.231				PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	TOPSOIL	Y ✔N	
1	42	41	SAND	Y ✔N	
42	182	140	SAND & SANDSTONE	Y ✔N	
182	250	68	SAND & GRAVEL	✔Y N	
250	402	152	FINE SAND	Y ✔N	
402	460	58	SAND & GRAVEL	✔Y N	
460	475	15	RED CLAY	Y ✔N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:
☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

RECEIVED
2016 NOV 17 P 3:53
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

5. TEST; RIG SUPERVISION

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

MISCELLANEOUS INFORMATION:

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

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:

Jacob Friessen — JACOBO FRIESSEN — 11-16-16

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 10/29/2015)

FILE NUMBER	C-3960	POD NUMBER	1	TRN NUMBER	588952
LOCATION	24.30.21.231				PAGE 2 OF 2

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Attention current WaterAlert users: NextGen WaterAlert is replacing Legacy WaterAlert. You must take action before 9/30/2022 to retain your alerts. Read more.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 321321103544101

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

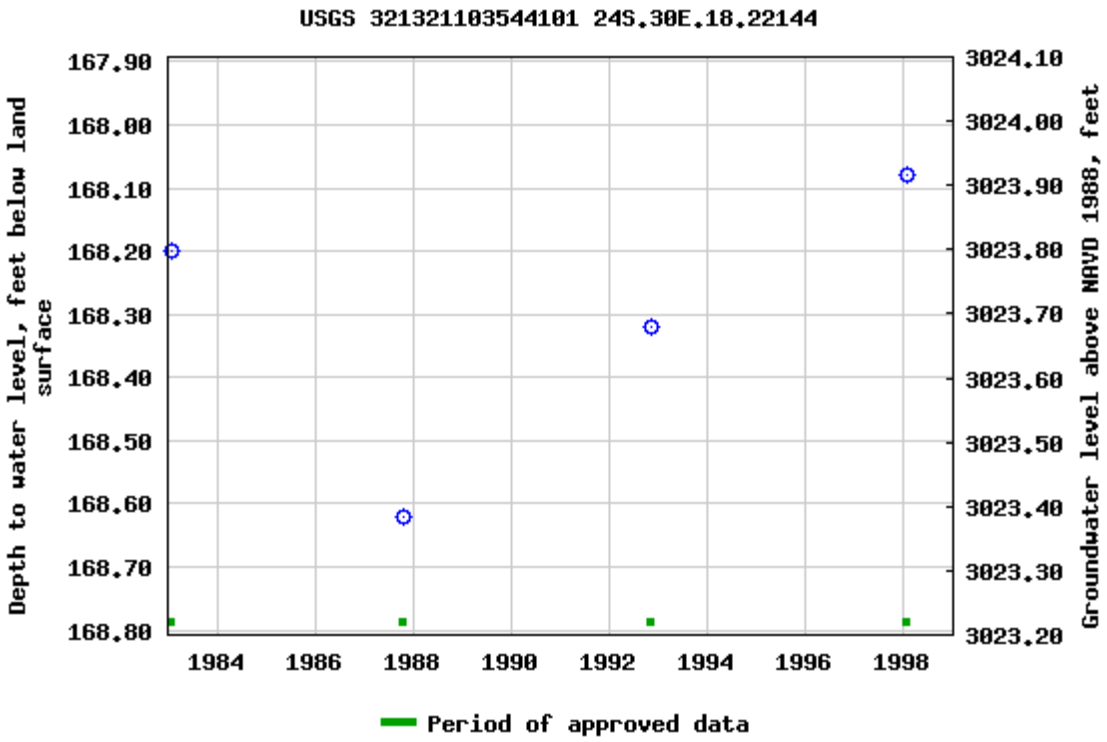
USGS 321321103544101 24S.30E.18.22144

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

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°13'21", Longitude 103°54'41" NAD27
Land-surface elevation 3,192 feet above NAVD88
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

Output formats

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



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

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

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-08-29 16:02:22 EDT
0.69 0.53 nadww01

ENSOLUM

APPENDIX B

Lithologic Soil Sampling Logs

ENSOLUM

Sample Name:BH01,BH01A,BH01B	Date: 8/04/2022	
Site Name: Poker Lake Unit 20-24-30		
Incident Number: NAPP2217544243		
Job Number: 03E1558088		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Chris Brown	Method:Hand Auger
Coordinates: 32.210392°, -103.899978°	Hole Diameter: 4"	Total Depth: 7'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
					0	0		
D	3,466.4	0.5	N	BH01	0.5	0.5	CCHE	Caliche – white to light tan, moderately cemented, some angular clasts, no stain, no odor
D	369.4	0.5	N	BH01A	1	1	CCHE	SAA
D	1,248.8	0.9	N		2	2	CCHE	SAA
D	1,876	1.8	N		3	3	CCHE	SAA
D	1,209.6	0.1	N		4	4	SP-SM	Sand-light brown to red, moderately sorted, moderate grading, some angular clasts, no stain, no odor
D	<156.8	0.3	N		5	5	SP-SM	SAA
D	280	0.5	N		6	6	SP-SM	SAA
D	280	0.7	N	BH01B	7	7	SP-SM	SAA

TD @ 7 feet bgs

ENSOLUM

APPENDIX C

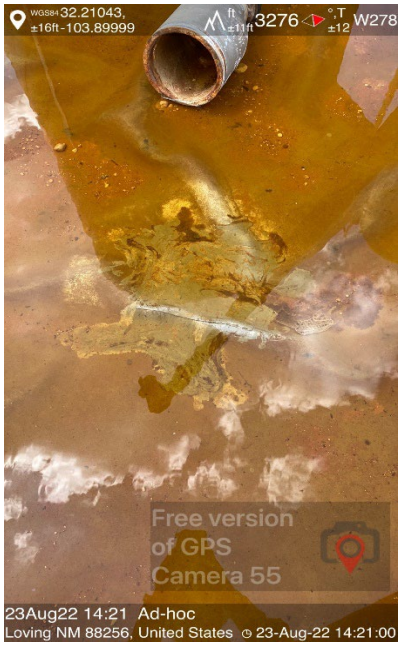
Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
Poker Lake Unit 20-24-30
Incident Number NAPP2217544243

Photograph 1 Date: June 24, 2022
Description: View of tear in liner discovered during liner inspection.

Photograph 2 Date: July 28, 2022
Description: View of lined containment showing no visible staining, facing southeast.



Photograph 3 Date: Aug 23, 2022
Description: View of liner patch. The patch is holding water following a recent rain.

Photograph 4 Date: Aug 23, 2022
Description: View of liner shoing no tears or holes, facing northeast.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2676-1
Laboratory Sample Delivery Group: Eddy County NM
Client Project/Site: Pierce Canyon 20-24-30

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/8/2022 3:53:13 PM

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

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

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

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Laboratory Job ID: 890-2676-1
SDG: Eddy County NM

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Definitions/Glossary

Client: Ensolum Job ID: 890-2676-1
Project/Site: Pierce Canyon 20-24-30 SDG: Eddy County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Job ID: 890-2676-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2676-1

Receipt
The sample was received on 7/28/2022 1:50 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.4°C

GC VOA
Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31335 and analytical batch 880-31540 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike duplicate recoveries are unavailable for preparation batch 880-31335 and analytical batch 880-31540. The associated laboratory control sample (LCS) met acceptance criteria.

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Client Sample ID: SS01

Date Collected: 07/28/22 12:10
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2676-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 19:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 19:35	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 19:35	1
m-Xylene & p-Xylene	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 19:35	1
o-Xylene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 19:35	1
Xylenes, Total	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:31	08/05/22 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:35*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:35*	*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			08/08/22 14:27	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			08/03/22 11:13	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		08/02/22 14:24	08/03/22 00:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/02/22 14:24	08/03/22 00:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/02/22 14:24	08/03/22 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*08/02/22 14:24*	*08/03/22 00:47*	*1*
o-Terphenyl	*90*		*70 - 130*	*08/02/22 14:24*	*08/03/22 00:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76.1**		4.97		mg/Kg			08/04/22 17:40	1

Surrogate Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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)										
890-2645-A-1-G MS	Matrix Spike	107	99										
890-2645-A-1-H MSD	Matrix Spike Duplicate	102	86										
890-2676-1	SS01	117	92										
890-2689-A-2-G MS	Matrix Spike	124	98										
890-2689-A-2-H MSD	Matrix Spike Duplicate	112	93										
LCS 880-31335/1-A	Lab Control Sample	116	100										
LCS 880-31573/1-A	Lab Control Sample	106	90										
LCSD 880-31335/2-A	Lab Control Sample Dup	106	98										
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94										
MB 880-31335/5-A	Method Blank	99	89										
MB 880-31573/5-A	Method Blank	101	91										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2676-1	SS01	79	90										
890-2678-A-1-D MS	Matrix Spike	84	89										
890-2678-A-1-E MSD	Matrix Spike Duplicate	75	74										
LCS 880-31333/2-A	Lab Control Sample	84	87										
LCSD 880-31333/3-A	Lab Control Sample Dup	85	87										
MB 880-31333/1-A	Method Blank	100	119										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: LCS 880-31335/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1046		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1239		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2398		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1296		mg/Kg		130	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-31335/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08982		mg/Kg		90	70 - 130	21	35
Toluene			0.100	0.08489		mg/Kg		85	70 - 130	21	35
Ethylbenzene			0.100	0.08074	*1	mg/Kg		81	70 - 130	42	35
m-Xylene & p-Xylene			0.200	0.1641	*1	mg/Kg		82	70 - 130	38	35
o-Xylene			0.100	0.09044	*1	mg/Kg		90	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.101	0.1014		mg/Kg		101	70 - 130		
Toluene	<0.00202	U F1	0.101	0.09230		mg/Kg		91	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U *1 F1	0.101	0.08894		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.201	0.1784		mg/Kg		87	70 - 130
o-Xylene	0.00264	*1 F1	0.101	0.09574		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2645-A-1-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00202	U *1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	0.00264	*1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: MB 880-31573/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31573

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1208		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09262		mg/Kg		93	70 - 130	7	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2689-A-2-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.09178		mg/Kg		91	70 - 130		
Toluene	<0.00200	U	0.101	0.1004		mg/Kg		100	70 - 130		
Ethylbenzene	<0.00200	U	0.101	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2218		mg/Kg		110	70 - 130		
o-Xylene	<0.00200	U	0.101	0.1258		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08524		mg/Kg		85	70 - 130	7	35
Toluene	<0.00200	U	0.0998	0.08780		mg/Kg		88	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0998	0.08996		mg/Kg		90	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1787		mg/Kg		90	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1036		mg/Kg		104	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-31333/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31333

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	08/02/22 14:24	08/02/22 19:51	1
o-Terphenyl	119		70 - 130	08/02/22 14:24	08/02/22 19:51	1

Lab Sample ID: LCS 880-31333/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31333

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	906.0		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	817.8		mg/Kg		82	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: LCSD 880-31333/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31333

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	970.7		mg/Kg		97	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	883.1		mg/Kg		88	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	87		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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

Lab Sample ID: 890-2678-A-1-D MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31333

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	976.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	862.4		mg/Kg		86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: 890-2678-A-1-E MSD
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31333

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	876.2		mg/Kg		85	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	725.5		mg/Kg		73	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31217/1-A
Matrix: Solid
Analysis Batch: 31435

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 14:26	1

Lab Sample ID: LCS 880-31217/2-A
Matrix: Solid
Analysis Batch: 31435

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

Lab Sample ID: LCSD 880-31217/3-A
Matrix: Solid
Analysis Batch: 31435

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	238.9		mg/Kg		96	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2675-A-11-F MS
Matrix: Solid
Analysis Batch: 31435

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	12.1		252	259.6		mg/Kg		98	90 - 110		

Lab Sample ID: 890-2675-A-11-G MSD
Matrix: Solid
Analysis Batch: 31435

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	12.1		252	265.0		mg/Kg		101	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	5035	
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	8021B	31335
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	8021B	31335
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31335
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	31335
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31335
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	8021B	31573
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	8015B NM	31333
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015B NM	31333
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31333
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31333
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	31333
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31333

Prep Batch: 31333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Prep Batch: 31333 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Soluble	Solid	DI Leach	
MB 880-31217/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31217/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31217/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2675-A-11-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2675-A-11-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2676-1	SS01	Soluble	Solid	300.0	31217
MB 880-31217/1-A	Method Blank	Soluble	Solid	300.0	31217
LCS 880-31217/2-A	Lab Control Sample	Soluble	Solid	300.0	31217
LCSD 880-31217/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31217
890-2675-A-11-F MS	Matrix Spike	Soluble	Solid	300.0	31217
890-2675-A-11-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31217

Lab Chronicle

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Client Sample ID: SS01

Date Collected: 07/28/22 12:10
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2676-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 19:35	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31776	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31406	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31333	08/02/22 14:24	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/03/22 00:47	SM	EETSC MID
Soluble	Leach	DI Leach			5.03 g	50 mL	31217	08/01/22 16:05	SMC	EETSC MID
Soluble	Analysis	300.0		1			31435	08/04/22 17:40	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

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

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

Sample Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2676-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2676-1	SS01	Solid	07/28/22 12:10	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks	Address:	3104 E Greene St
City, State ZIP:	Carlsbad NM 88220	City, State ZIP:	Carlsbad NM 88220
Phone:	337-257-8037	Email:	rmorrissey@ensolum.com

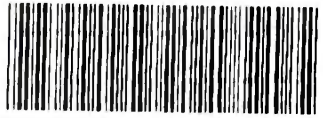
Work Order Comments

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:	Pierce Canyon 20-24-30	Turn Around	
Project Number:	03E1558088	☑ Routine ☐ Rush	
Project Location:	Eddy Co	Due Date:	
Sampler's Name:	GB	TAT starts the day received by the lab, if received by 4:30pm	
P.O. #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	THM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	10.6
Total Containers:		Corrected Temperature:	10.4

ANALYSIS REQUEST



Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters	Sample Comments
SS01	S	7-28	1210	.2	G	1		CHL ORT TPH	Affe ID NAPP2217544243
									CC 1081091001

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7.28.22 1350	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2676-1
SDG Number: Eddy County NM

Login Number: 2676
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2676-1
SDG Number: Eddy County NM

Login Number: 2676
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 AM

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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2677-1
Laboratory Sample Delivery Group: 03e1558088
Client Project/Site: Pierce Canyon 20-24-30

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/5/2022 12:12:50 PM

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

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

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

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Laboratory Job ID: 890-2677-1
SDG: 03e1558088

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Definitions/Glossary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
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: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Job ID: 890-2677-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2677-1

Receipt
The sample was received on 7/28/2022 1:50 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.4°C

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-31337 and analytical batch 880-31375 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS02 (890-2677-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Client Sample ID: SS02

Date Collected: 07/28/22 12:20
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2677-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		08/02/22 14:44	08/04/22 03:22	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		08/02/22 14:44	08/04/22 03:22	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		08/02/22 14:44	08/04/22 03:22	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399		mg/Kg		08/02/22 14:44	08/04/22 03:22	1
o-Xylene	<0.00200	U *+ *1	0.00200		mg/Kg		08/02/22 14:44	08/04/22 03:22	1
Xylenes, Total	<0.00399	U *1	0.00399		mg/Kg		08/02/22 14:44	08/04/22 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*08/02/22 14:44*	*08/04/22 03:22*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/02/22 14:44*	*08/04/22 03:22*	*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			08/04/22 09:41	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			08/03/22 11:13	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		08/02/22 08:40	08/02/22 14:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/02/22 08:40	08/02/22 14:30	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/02/22 08:40	08/02/22 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*65*	*S1-*	*70 - 130*	*08/02/22 08:40*	*08/02/22 14:30*	*1*
o-Terphenyl	*72*		*70 - 130*	*08/02/22 08:40*	*08/02/22 14:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.74**		4.96		mg/Kg			08/04/22 19:26	1

Surrogate Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2656-A-1-F MS	Matrix Spike	104	96
890-2656-A-1-G MSD	Matrix Spike Duplicate	106	93
890-2677-1	SS02	121	95
LCS 880-31337/1-A	Lab Control Sample	113	93
LCSD 880-31337/2-A	Lab Control Sample Dup	90	87
MB 880-31323/5-A	Method Blank	106	87
MB 880-31337/5-A	Method Blank	99	87

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2677-1	SS02	65 S1-	72
890-2686-A-1-C MS	Matrix Spike	97	97
890-2686-A-1-D MSD	Matrix Spike Duplicate	84	82
LCS 880-31286/2-A	Lab Control Sample	104	102
LCSD 880-31286/3-A	Lab Control Sample Dup	104	108
MB 880-31286/1-A	Method Blank	90	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31323/5-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31323

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 13:15	08/03/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/02/22 13:15*	*08/03/22 10:46*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/02/22 13:15*	*08/03/22 10:46*	*1*

Lab Sample ID: MB 880-31337/5-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:44	08/03/22 21:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:44*	*08/03/22 21:53*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/02/22 14:44*	*08/03/22 21:53*	*1*

Lab Sample ID: LCS 880-31337/1-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09999		mg/Kg		100	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1082		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.2220		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1387	*+	mg/Kg		139	70 - 130		

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

Lab Sample ID: LCSD 880-31337/2-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.0998	0.05262	*- *1	mg/Kg		53	70 - 130	62	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

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

Lab Sample ID: LCSD 880-31337/2-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.0998	0.06071	*- *1	mg/Kg		61	70 - 130	52	35
Ethylbenzene			0.0998	0.06794	*- *1	mg/Kg		68	70 - 130	46	35
m-Xylene & p-Xylene			0.200	0.1297	*- *1	mg/Kg		65	70 - 130	52	35
o-Xylene			0.0998	0.09111	*1	mg/Kg		91	70 - 130	41	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 890-2656-A-1-F MS
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U *- *1	0.101	0.08722		mg/Kg		87	70 - 130
Toluene	<0.00199	U *- *1	0.101	0.08202		mg/Kg		82	70 - 130
Ethylbenzene	<0.00199	U *- *1	0.101	0.08158		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00398	U *- *1	0.201	0.1625		mg/Kg		81	70 - 130
o-Xylene	<0.00199	U *+ *1	0.101	0.09304		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-2656-A-1-G MSD
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U *- *1	0.0998	0.09326		mg/Kg		93	70 - 130	7	35
Toluene	<0.00199	U *- *1	0.0998	0.08591		mg/Kg		86	70 - 130	5	35
Ethylbenzene	<0.00199	U *- *1	0.0998	0.08696		mg/Kg		87	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U *- *1	0.200	0.1684		mg/Kg		84	70 - 130	4	35
o-Xylene	<0.00199	U *+ *1	0.0998	0.09635		mg/Kg		97	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

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

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1060		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1036		mg/Kg		104	70 - 130		

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

Lab Sample ID: LCSD 880-31286/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1063		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1092		mg/Kg		109	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-2686-A-1-C MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31286

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	941.9		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	802.5		mg/Kg		80	70 - 130		

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

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

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

Lab Sample ID: 890-2686-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31286**

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	829.1		mg/Kg		83	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	700.8		mg/Kg		70	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31217/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31435

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 14:26	1

Lab Sample ID: LCS 880-31217/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31435

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

Lab Sample ID: LCSD 880-31217/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31435

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	238.9		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 890-2675-A-11-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31435

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	12.1		252	259.6		mg/Kg		98	90 - 110		

Lab Sample ID: 890-2675-A-11-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31435

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	12.1		252	265.0		mg/Kg		101	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

GC VOA

Prep Batch: 31323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31323/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 31337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	5035	
MB 880-31337/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31337/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31337/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2656-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-2656-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	8021B	31337
MB 880-31323/5-A	Method Blank	Total/NA	Solid	8021B	31323
MB 880-31337/5-A	Method Blank	Total/NA	Solid	8021B	31337
LCS 880-31337/1-A	Lab Control Sample	Total/NA	Solid	8021B	31337
LCSD 880-31337/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31337
890-2656-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	31337
890-2656-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31337

Analysis Batch: 31484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	8015B NM	31286
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015B NM	31286
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31286
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31286
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	31286
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31286

Prep Batch: 31286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

HPLC/IC

Leach Batch: 31217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Soluble	Solid	DI Leach	
MB 880-31217/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31217/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31217/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2675-A-11-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2675-A-11-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2677-1	SS02	Soluble	Solid	300.0	31217
MB 880-31217/1-A	Method Blank	Soluble	Solid	300.0	31217
LCS 880-31217/2-A	Lab Control Sample	Soluble	Solid	300.0	31217
LCSD 880-31217/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31217
890-2675-A-11-F MS	Matrix Spike	Soluble	Solid	300.0	31217
890-2675-A-11-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31217

Lab Chronicle

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Client Sample ID: SS02

Date Collected: 07/28/22 12:20
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2677-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31337	08/02/22 14:44	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31375	08/04/22 03:22	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31484	08/04/22 09:41	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31400	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	31286	08/02/22 08:40	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/02/22 14:30	SM	EETSC MID
Soluble	Leach	DI Leach			5.04 g	50 mL	31217	08/01/22 16:05	SMC	EETSC MID
Soluble	Analysis	300.0		1			31435	08/04/22 19:26	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

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: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

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

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

Sample Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2677-1
SDG: 03e1558088

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2677-1	SS02	Solid	07/28/22 12:20	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	Email:		

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:	Pierce Canyon 20-24-30	Turn Around	
Project Number:	03E1558088	☑ Routine ☐ Rush	Pres. Code
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-06	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	10.6	
Total Containers:		Corrected Temperature:	10.4	

ANALYSIS REQUEST

Parameters: CHL, TPH, BTX

890-2677 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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Sample Comments
SS02	S	7-28	1220	.2	G	1	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			7.28.22 1350			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2677-1
SDG Number: 03e1558088

Login Number: 2677
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2677-1
SDG Number: 03e1558088

Login Number: 2677
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2679-1
Laboratory Sample Delivery Group: 03e1558088
Client Project/Site: Pierce Canyon 20-24-30

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/4/2022 4:02:38 PM

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

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

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

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Laboratory Job ID: 890-2679-1
SDG: 03e1558088

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Definitions/Glossary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Job ID: 890-2679-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2679-1

Receipt
The sample was received on 7/28/2022 1:50 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.4°C

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-31337 and analytical batch 880-31375 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

GC Semi VOA
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 880-31219 and analytical batch 880-31436 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Client Sample ID: SS03

Date Collected: 07/28/22 12:30
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2679-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *- *1	0.00201		mg/Kg		08/02/22 14:44	08/04/22 03:42	1
Toluene	<0.00201	U *- *1	0.00201		mg/Kg		08/02/22 14:44	08/04/22 03:42	1
Ethylbenzene	<0.00201	U *- *1	0.00201		mg/Kg		08/02/22 14:44	08/04/22 03:42	1
m-Xylene & p-Xylene	<0.00402	U *- *1	0.00402		mg/Kg		08/02/22 14:44	08/04/22 03:42	1
o-Xylene	<0.00201	U *+ *1	0.00201		mg/Kg		08/02/22 14:44	08/04/22 03:42	1
Xylenes, Total	<0.00402	U *1	0.00402		mg/Kg		08/02/22 14:44	08/04/22 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*08/02/22 14:44*	*08/04/22 03:42*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*08/02/22 14:44*	*08/04/22 03:42*	*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			08/04/22 09:41	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			08/03/22 11:13	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		08/02/22 14:24	08/03/22 01:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/03/22 01:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/03/22 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*08/02/22 14:24*	*08/03/22 01:29*	*1*
o-Terphenyl	*86*		*70 - 130*	*08/02/22 14:24*	*08/03/22 01:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**68.5**		5.02		mg/Kg			08/04/22 12:35	1

Surrogate Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2656-A-1-F MS	Matrix Spike	104	96
890-2656-A-1-G MSD	Matrix Spike Duplicate	106	93
890-2679-1	SS03	119	95
LCS 880-31337/1-A	Lab Control Sample	113	93
LCSD 880-31337/2-A	Lab Control Sample Dup	90	87
MB 880-31323/5-A	Method Blank	106	87
MB 880-31337/5-A	Method Blank	99	87

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2678-A-1-D MS	Matrix Spike	84	89
890-2678-A-1-E MSD	Matrix Spike Duplicate	75	74
890-2679-1	SS03	77	86
LCS 880-31333/2-A	Lab Control Sample	84	87
LCSD 880-31333/3-A	Lab Control Sample Dup	85	87
MB 880-31333/1-A	Method Blank	100	119

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31323/5-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31323

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 13:15	08/03/22 10:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 13:15	08/03/22 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*08/02/22 13:15*	*08/03/22 10:46*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/02/22 13:15*	*08/03/22 10:46*	*1*

Lab Sample ID: MB 880-31337/5-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:44	08/03/22 21:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:44	08/03/22 21:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:44*	*08/03/22 21:53*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/02/22 14:44*	*08/03/22 21:53*	*1*

Lab Sample ID: LCS 880-31337/1-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09999		mg/Kg		100	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.1082		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.2220		mg/Kg		111	70 - 130		
o-Xylene			0.100	0.1387	*+	mg/Kg		139	70 - 130		

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

Lab Sample ID: LCSD 880-31337/2-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.0998	0.05262	*- *1	mg/Kg		53	70 - 130	62	35

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

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

Lab Sample ID: LCSD 880-31337/2-A
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.0998	0.06071	*- *1	mg/Kg		61	70 - 130	52	35
Ethylbenzene			0.0998	0.06794	*- *1	mg/Kg		68	70 - 130	46	35
m-Xylene & p-Xylene			0.200	0.1297	*- *1	mg/Kg		65	70 - 130	52	35
o-Xylene			0.0998	0.09111	*1	mg/Kg		91	70 - 130	41	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: 890-2656-A-1-F MS
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U *- *1	0.101	0.08722		mg/Kg		87	70 - 130
Toluene	<0.00199	U *- *1	0.101	0.08202		mg/Kg		82	70 - 130
Ethylbenzene	<0.00199	U *- *1	0.101	0.08158		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	<0.00398	U *- *1	0.201	0.1625		mg/Kg		81	70 - 130
o-Xylene	<0.00199	U *+ *1	0.101	0.09304		mg/Kg		92	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-2656-A-1-G MSD
Matrix: Solid
Analysis Batch: 31375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U *- *1	0.0998	0.09326		mg/Kg		93	70 - 130	7	35
Toluene	<0.00199	U *- *1	0.0998	0.08591		mg/Kg		86	70 - 130	5	35
Ethylbenzene	<0.00199	U *- *1	0.0998	0.08696		mg/Kg		87	70 - 130	6	35
m-Xylene & p-Xylene	<0.00398	U *- *1	0.200	0.1684		mg/Kg		84	70 - 130	4	35
o-Xylene	<0.00199	U *+ *1	0.0998	0.09635		mg/Kg		97	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-31333/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31333

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

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

Lab Sample ID: MB 880-31333/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31333**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/02/22 14:24*	*08/02/22 19:51*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/02/22 14:24*	*08/02/22 19:51*	*1*

Lab Sample ID: LCS 880-31333/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31333**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	906.0		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	817.8		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: LCSD 880-31333/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31333**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	970.7		mg/Kg		97	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	883.1		mg/Kg		88	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*87*		*70 - 130*

Lab Sample ID: 890-2678-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31333**

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	976.7		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	862.4		mg/Kg		86	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

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

Lab Sample ID: 890-2678-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31239 — **Prep Batch: 31333**

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	876.2		mg/Kg		85	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	725.5		mg/Kg		73	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31219/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31436

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 08:50	1

Lab Sample ID: LCS 880-31219/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31436

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.3		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-31219/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31436

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	236.4		mg/Kg		95	90 - 110	12	20

Lab Sample ID: 890-2678-A-7-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	37.7	F1	249	267.9		mg/Kg		92	90 - 110		

Lab Sample ID: 890-2678-A-7-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31436

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	37.7	F1	249	314.4	F1	mg/Kg		111	90 - 110	16	20

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2682-A-6-E MS
Matrix: Solid
Analysis Batch: 31436

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	765	F1	252	1167	F1	mg/Kg		160	90 - 110		

Lab Sample ID: 890-2682-A-6-F MSD
Matrix: Solid
Analysis Batch: 31436

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	765	F1	252	980.9	F1	mg/Kg		86	90 - 110	17	20

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

GC VOA

Prep Batch: 31323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31323/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 31337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	5035	
MB 880-31337/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31337/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31337/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2656-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-2656-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	8021B	31337
MB 880-31323/5-A	Method Blank	Total/NA	Solid	8021B	31323
MB 880-31337/5-A	Method Blank	Total/NA	Solid	8021B	31337
LCS 880-31337/1-A	Lab Control Sample	Total/NA	Solid	8021B	31337
LCSD 880-31337/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31337
890-2656-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	31337
890-2656-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31337

Analysis Batch: 31485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	8015B NM	31333
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015B NM	31333
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31333
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31333
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	31333
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31333

Prep Batch: 31333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

HPLC/IC

Leach Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Soluble	Solid	DI Leach	
MB 880-31219/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2678-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2678-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2679-1	SS03	Soluble	Solid	300.0	31219
MB 880-31219/1-A	Method Blank	Soluble	Solid	300.0	31219
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	300.0	31219
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31219
890-2678-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2678-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219

Lab Chronicle

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Client Sample ID: SS03
Date Collected: 07/28/22 12:30
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2679-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31337	08/02/22 14:44	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31375	08/04/22 03:42	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31485	08/04/22 09:41	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31407	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31333	08/02/22 14:24	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/03/22 01:29	SM	EETSC MID
Soluble	Leach	DI Leach			4.98 g	50 mL	31219	08/01/22 16:08	SMC	EETSC MID
Soluble	Analysis	300.0		1			31436	08/04/22 12:35	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

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: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

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

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

Sample Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2679-1
SDG: 03e1558088

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2679-1	SS03	Solid	07/28/22 12:30	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: ______

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

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:	Pierce Canyon 20-24-30	Turn Around	
Project Number:	03E1558088	☑ Routine	☐ Rush
Project Location:		Due Date:	
Sampler's Name:		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:	-0.2
Cooler Custody Seals:	Yes No (N/A)		Correction Factor:	10.6
Sample Custody Seals:	Yes No (N/A)		Temperature Reading:	10.4
Total Containers:			Corrected Temperature:	-0.2

ANALYSIS REQUEST — Parameters: CHL, BTX, TPH

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHL	BTX	TPH	Sample Comments
SS03	S	7-28	1230	.2	G	1		✓	✓	✓	

890-2679 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	

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	7-28-22 1350	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2679-1
SDG Number: 03e1558088

Login Number: 2679
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2679-1
SDG Number: 03e1558088

Login Number: 2679
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2680-1
Laboratory Sample Delivery Group: 03e1558088
Client Project/Site: Pierce Canyon 20-24-30

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/8/2022 3:53:13 PM

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

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

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

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Laboratory Job ID: 890-2680-1
SDG: 03e1558088

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Definitions/Glossary

Client: Ensolum Job ID: 890-2680-1
Project/Site: Pierce Canyon 20-24-30 SDG: 03e1558088

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Job ID: 890-2680-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2680-1

Receipt
The sample was received on 7/28/2022 1:50 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.4°C

GC VOA
Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31335 and analytical batch 880-31540 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike duplicate recoveries are unavailable for preparation batch 880-31335 and analytical batch 880-31540. The associated laboratory control sample (LCS) met acceptance criteria.

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 880-31219 and analytical batch 880-31436 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Client Sample ID: SS04

Date Collected: 07/28/22 12:40
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2680-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:33	1
Ethylbenzene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:33	1
m-Xylene & p-Xylene	<0.00401	U *1	0.00401		mg/Kg		08/02/22 14:31	08/05/22 18:33	1
o-Xylene	<0.00200	U *1	0.00200		mg/Kg		08/02/22 14:31	08/05/22 18:33	1
Xylenes, Total	<0.00401	U *1	0.00401		mg/Kg		08/02/22 14:31	08/05/22 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*08/02/22 14:31*	*08/05/22 18:33*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/02/22 14:31*	*08/05/22 18:33*	*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			08/08/22 14:27	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			08/03/22 11:13	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		08/02/22 14:24	08/03/22 01:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/03/22 01:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/03/22 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/02/22 14:24*	*08/03/22 01:51*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/02/22 14:24*	*08/03/22 01:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**159**		4.99		mg/Kg			08/04/22 12:43	1

Surrogate Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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)										
890-2645-A-1-G MS	Matrix Spike	107	99										
890-2645-A-1-H MSD	Matrix Spike Duplicate	102	86										
890-2680-1	SS04	116	92										
890-2689-A-2-G MS	Matrix Spike	124	98										
890-2689-A-2-H MSD	Matrix Spike Duplicate	112	93										
LCS 880-31335/1-A	Lab Control Sample	116	100										
LCS 880-31573/1-A	Lab Control Sample	106	90										
LCSD 880-31335/2-A	Lab Control Sample Dup	106	98										
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94										
MB 880-31335/5-A	Method Blank	99	89										
MB 880-31573/5-A	Method Blank	101	91										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-2678-A-1-D MS	Matrix Spike	84	89										
890-2678-A-1-E MSD	Matrix Spike Duplicate	75	74										
890-2680-1	SS04	93	103										
LCS 880-31333/2-A	Lab Control Sample	84	87										
LCSD 880-31333/3-A	Lab Control Sample Dup	85	87										
MB 880-31333/1-A	Method Blank	100	119										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: LCS 880-31335/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1046		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1239		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2398		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1296		mg/Kg		130	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-31335/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08982		mg/Kg		90	70 - 130	21	35
Toluene			0.100	0.08489		mg/Kg		85	70 - 130	21	35
Ethylbenzene			0.100	0.08074	*1	mg/Kg		81	70 - 130	42	35
m-Xylene & p-Xylene			0.200	0.1641	*1	mg/Kg		82	70 - 130	38	35
o-Xylene			0.100	0.09044	*1	mg/Kg		90	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.101	0.1014		mg/Kg		101	70 - 130		
Toluene	<0.00202	U F1	0.101	0.09230		mg/Kg		91	70 - 130		

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U *1 F1	0.101	0.08894		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.201	0.1784		mg/Kg		87	70 - 130
o-Xylene	0.00264	*1 F1	0.101	0.09574		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2645-A-1-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00202	U *1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	0.00264	*1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: MB 880-31573/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31573

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1208		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09262		mg/Kg		93	70 - 130	7	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2689-A-2-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.09178		mg/Kg		91	70 - 130		
Toluene	<0.00200	U	0.101	0.1004		mg/Kg		100	70 - 130		
Ethylbenzene	<0.00200	U	0.101	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2218		mg/Kg		110	70 - 130		
o-Xylene	<0.00200	U	0.101	0.1258		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08524		mg/Kg		85	70 - 130	7	35
Toluene	<0.00200	U	0.0998	0.08780		mg/Kg		88	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0998	0.08996		mg/Kg		90	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1787		mg/Kg		90	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1036		mg/Kg		104	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-31333/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31333

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 14:24	08/02/22 19:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	08/02/22 14:24	08/02/22 19:51	1
o-Terphenyl	119		70 - 130	08/02/22 14:24	08/02/22 19:51	1

Lab Sample ID: LCS 880-31333/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31333

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	906.0		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	817.8		mg/Kg		82	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	84		70 - 130
o-Terphenyl	87		70 - 130

Lab Sample ID: LCSD 880-31333/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31333

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	970.7		mg/Kg		97	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	883.1		mg/Kg		88	70 - 130	8	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	87		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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

Lab Sample ID: 890-2678-A-1-D MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31333

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	976.7		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	862.4		mg/Kg		86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: 890-2678-A-1-E MSD
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31333

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	876.2		mg/Kg		85	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	725.5		mg/Kg		73	70 - 130	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31219/1-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 08:50	1

Lab Sample ID: LCS 880-31219/2-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	266.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-31219/3-A
Matrix: Solid
Analysis Batch: 31436

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	236.4		mg/Kg		95	90 - 110	12	20

QC Sample Results

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2678-A-7-B MS
Matrix: Solid
Analysis Batch: 31436

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	37.7	F1	249	267.9		mg/Kg		92	90 - 110

Lab Sample ID: 890-2678-A-7-C MSD
Matrix: Solid
Analysis Batch: 31436

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	37.7	F1	249	314.4	F1	mg/Kg		111	90 - 110	16	20

Lab Sample ID: 890-2682-A-6-E MS
Matrix: Solid
Analysis Batch: 31436

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	765	F1	252	1167	F1	mg/Kg		160	90 - 110

Lab Sample ID: 890-2682-A-6-F MSD
Matrix: Solid
Analysis Batch: 31436

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	765	F1	252	980.9	F1	mg/Kg		86	90 - 110	17	20

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	5035	
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	8021B	31335
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	8021B	31335
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31335
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	31335
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31335
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	8021B	31573
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	8015B NM	31333
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015B NM	31333
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31333
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31333
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	31333
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31333

Prep Batch: 31333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-31333/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31333/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31333/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2678-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

GC Semi VOA (Continued)

Prep Batch: 31333 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2678-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Soluble	Solid	DI Leach	
MB 880-31219/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2678-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2678-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2680-1	SS04	Soluble	Solid	300.0	31219
MB 880-31219/1-A	Method Blank	Soluble	Solid	300.0	31219
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	300.0	31219
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31219
890-2678-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2678-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219

Lab Chronicle

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Client Sample ID: SS04

Date Collected: 07/28/22 12:40
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2680-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 18:33	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31773	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31408	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31333	08/02/22 14:24	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/03/22 01:51	SM	EETSC MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31219	08/01/22 16:08	SMC	EETSC MID
Soluble	Analysis	300.0		1			31436	08/04/22 12:43	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

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

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

Sample Summary

Client: Ensolum
Project/Site: Pierce Canyon 20-24-30

Job ID: 890-2680-1
SDG: 03e1558088

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2680-1	SS04	Solid	07/28/22 12:40	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Graham Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:		Email:	

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:	Pierce Canyon 20-24-30	Turn Around	
Project Number:	03E155-8088	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TNM - 5079	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.3	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	10.6	
Total Containers:		Corrected Temperature:	10.4	

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHL / BTX / TPH	Sample Comments
SS04	S	7-28	1240	.2	G	1		✓ ✓ ✓	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		7.26.22 1350			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2680-1
SDG Number: 03e1558088

Login Number: 2680
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2680-1
SDG Number: 03e1558088

Login Number: 2680
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2730-1
Laboratory Sample Delivery Group: 03E1558088
Client Project/Site: PLU 20-24-30
Revision: 1

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

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/17/2022 12:28:30 PM

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

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

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

Client: Ensolum
Project/Site: PLU 20-24-30

Laboratory Job ID: 890-2730-1
SDG: 03E1558088

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Definitions/Glossary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Job ID: 890-2730-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2730-1

REVISION

The report being provided is a revision of the original report sent on 8/15/2022. The report (revision 1) is being revised due to Per client email, requested sample ID changes.

Report revision history

Receipt
The samples were received on 8/5/2022 11:06 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-31783 and analytical batch 880-31823 contained Gasoline Range Organics (GRO)-C6-C10 and OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Client Sample ID: BH01
Date Collected: 08/04/22 10:30
Date Received: 08/05/22 11:06
Sample Depth: 0.5'

Lab Sample ID: 890-2730-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/11/22 04:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/11/22 04:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/11/22 04:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/09/22 14:20	08/11/22 04:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/11/22 04:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/09/22 14:20	08/11/22 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:16*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:16*	*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			08/11/22 10:57	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			08/10/22 09:17	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		08/08/22 14:50	08/10/22 01:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/08/22 14:50	08/10/22 01:37	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/08/22 14:50	08/10/22 01:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/08/22 14:50*	*08/10/22 01:37*	*1*
o-Terphenyl	*122*		*70 - 130*	*08/08/22 14:50*	*08/10/22 01:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3780**		25.0		mg/Kg			08/12/22 18:49	5

Client Sample ID: BH01A
Date Collected: 08/04/22 11:00
Date Received: 08/05/22 11:06
Sample Depth: 1'

Lab Sample ID: 890-2730-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/09/22 14:20	08/11/22 04:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/09/22 14:20	08/11/22 04:37	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/09/22 14:20	08/11/22 04:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/09/22 14:20	08/11/22 04:37	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/09/22 14:20	08/11/22 04:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/09/22 14:20	08/11/22 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:37*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Client Sample ID: BH01A
Date Collected: 08/04/22 11:00
Date Received: 08/05/22 11:06
Sample Depth: 1'

Lab Sample ID: 890-2730-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:37*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/11/22 10:57	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			08/10/22 09:17	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		08/08/22 14:50	08/10/22 01:59	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/10/22 01:59	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/10/22 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*08/08/22 14:50*	*08/10/22 01:59*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/08/22 14:50*	*08/10/22 01:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		5.00		mg/Kg			08/12/22 18:58	1

Client Sample ID: BH01B
Date Collected: 08/04/22 11:30
Date Received: 08/05/22 11:06
Sample Depth: 7'

Lab Sample ID: 890-2730-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		08/09/22 14:20	08/11/22 04:57	1
Toluene	<0.00202	U	0.00202		mg/Kg		08/09/22 14:20	08/11/22 04:57	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		08/09/22 14:20	08/11/22 04:57	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		08/09/22 14:20	08/11/22 04:57	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		08/09/22 14:20	08/11/22 04:57	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		08/09/22 14:20	08/11/22 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:57*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*08/09/22 14:20*	*08/11/22 04:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			08/11/22 10:57	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			08/10/22 09:17	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Client Sample ID: BH01B

Date Collected: 08/04/22 11:30
Date Received: 08/05/22 11:06
Sample Depth: 7'

Lab Sample ID: 890-2730-3

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		08/08/22 14:50	08/10/22 02:20	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/10/22 02:20	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/10/22 02:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*08/08/22 14:50*	*08/10/22 02:20*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/08/22 14:50*	*08/10/22 02:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**215**		5.04		mg/Kg			08/12/22 19:07	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2717-A-1-H MS	Matrix Spike	104	93
890-2717-A-1-I MSD	Matrix Spike Duplicate	103	94
890-2730-1	BH01	123	90
890-2730-2	BH01A	115	88
890-2730-3	BH01B	114	83
LCS 880-31852/1-A	Lab Control Sample	104	93
LCSD 880-31852/2-A	Lab Control Sample Dup	117	93
MB 880-31852/5-A	Method Blank	100	87
MB 880-31859/5-A	Method Blank	99	88

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-17808-A-5-C MS	Matrix Spike	94	95
880-17808-A-5-D MSD	Matrix Spike Duplicate	96	98
890-2730-1	BH01	105	122
890-2730-2	BH01A	86	97
890-2730-3	BH01B	98	111
LCS 880-31783/2-A	Lab Control Sample	99	103
LCSD 880-31783/3-A	Lab Control Sample Dup	87	93
MB 880-31783/1-A	Method Blank	93	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31852/5-A
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31852

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/10/22 23:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/10/22 23:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/10/22 23:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/09/22 14:20	08/10/22 23:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/09/22 14:20	08/10/22 23:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/09/22 14:20	08/10/22 23:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*08/09/22 14:20*	*08/10/22 23:09*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/09/22 14:20*	*08/10/22 23:09*	*1*

Lab Sample ID: LCS 880-31852/1-A
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31852

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07639		mg/Kg		76	70 - 130		
Toluene			0.100	0.07711		mg/Kg		77	70 - 130		
Ethylbenzene			0.100	0.08089		mg/Kg		81	70 - 130		
m-Xylene & p-Xylene			0.200	0.1645		mg/Kg		82	70 - 130		
o-Xylene			0.100	0.09143		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: LCSD 880-31852/2-A
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31852

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07451		mg/Kg		75	70 - 130	2	35
Toluene			0.100	0.07796		mg/Kg		78	70 - 130	1	35
Ethylbenzene			0.100	0.08436		mg/Kg		84	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1738		mg/Kg		87	70 - 130	6	35
o-Xylene			0.100	0.09756		mg/Kg		98	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-2717-A-1-H MS
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09566		mg/Kg		95	70 - 130		
Toluene	<0.00201	U	0.100	0.09695		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

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

Lab Sample ID: 890-2717-A-1-H MS
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.1007		mg/Kg		100	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.2015		mg/Kg		100	70 - 130
o-Xylene	<0.00201	U	0.100	0.1109		mg/Kg		110	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-2717-A-1-I MSD
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.09159		mg/Kg		92	70 - 130	4	35
Toluene	<0.00201	U	0.0998	0.09133		mg/Kg		91	70 - 130	6	35
Ethylbenzene	<0.00201	U	0.0998	0.09450		mg/Kg		95	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1903		mg/Kg		95	70 - 130	6	35
o-Xylene	<0.00201	U	0.0998	0.1047		mg/Kg		105	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: MB 880-31859/5-A
Matrix: Solid
Analysis Batch: 31883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31859

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/09/22 15:44	08/10/22 12:32	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/09/22 15:44	08/10/22 12:32	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/09/22 15:44	08/10/22 12:32	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/09/22 15:44	08/10/22 12:32	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/09/22 15:44	08/10/22 12:32	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/09/22 15:44	08/10/22 12:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/09/22 15:44*	*08/10/22 12:32*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/09/22 15:44*	*08/10/22 12:32*	*1*

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

Lab Sample ID: MB 880-31783/1-A
Matrix: Solid
Analysis Batch: 31823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31783

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		08/08/22 14:50	08/09/22 21:20	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

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

Lab Sample ID: MB 880-31783/1-A
Matrix: Solid
Analysis Batch: 31823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31783

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/09/22 21:20	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/08/22 14:50	08/09/22 21:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*93*		*70 - 130*	*08/08/22 14:50*	*08/09/22 21:20*	*1*
o-Terphenyl	*110*		*70 - 130*	*08/08/22 14:50*	*08/09/22 21:20*	*1*

Lab Sample ID: LCS 880-31783/2-A
Matrix: Solid
Analysis Batch: 31823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31783

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	874.9		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	964.0		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: LCSD 880-31783/3-A
Matrix: Solid
Analysis Batch: 31823

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31783

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1026		mg/Kg		103	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	810.2		mg/Kg		81	70 - 130	17	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: 880-17808-A-5-C MS
Matrix: Solid
Analysis Batch: 31823

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31783

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	924.3		mg/Kg		93	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	766.3		mg/Kg		77	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

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

Lab Sample ID: 880-17808-A-5-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 31823 — **Prep Batch: 31783**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1066		mg/Kg		107	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	778.6		mg/Kg		78	70 - 130	2	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31857/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31928

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/12/22 14:31	1

Lab Sample ID: LCS 880-31857/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	248.1		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-31857/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31928

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	256.3		mg/Kg		103	90 - 110	3	20

Lab Sample ID: 880-17798-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	108		249	381.1		mg/Kg		110	90 - 110		

Lab Sample ID: 880-17798-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 31928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	108		249	370.6		mg/Kg		106	90 - 110	3	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-17801-A-1-G MS
Matrix: Solid
Analysis Batch: 31928

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	697		1250	2009		mg/Kg		105	90 - 110		

Lab Sample ID: 880-17801-A-1-H MSD
Matrix: Solid
Analysis Batch: 31928

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	697		1250	2031		mg/Kg		107	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

GC VOA

Prep Batch: 31852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	5035	
890-2730-2	BH01A	Total/NA	Solid	5035	
890-2730-3	BH01B	Total/NA	Solid	5035	
MB 880-31852/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31852/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31852/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2717-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
890-2717-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 31859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31859/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 31883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	8021B	31852
890-2730-2	BH01A	Total/NA	Solid	8021B	31852
890-2730-3	BH01B	Total/NA	Solid	8021B	31852
MB 880-31852/5-A	Method Blank	Total/NA	Solid	8021B	31852
MB 880-31859/5-A	Method Blank	Total/NA	Solid	8021B	31859
LCS 880-31852/1-A	Lab Control Sample	Total/NA	Solid	8021B	31852
LCSD 880-31852/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31852
890-2717-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	31852
890-2717-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31852

Analysis Batch: 31996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	Total BTEX	
890-2730-2	BH01A	Total/NA	Solid	Total BTEX	
890-2730-3	BH01B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 31783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	8015NM Prep	
890-2730-2	BH01A	Total/NA	Solid	8015NM Prep	
890-2730-3	BH01B	Total/NA	Solid	8015NM Prep	
MB 880-31783/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31783/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31783/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-17808-A-5-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-17808-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	8015B NM	31783
890-2730-2	BH01A	Total/NA	Solid	8015B NM	31783
890-2730-3	BH01B	Total/NA	Solid	8015B NM	31783
MB 880-31783/1-A	Method Blank	Total/NA	Solid	8015B NM	31783
LCS 880-31783/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31783

QC Association Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

GC Semi VOA (Continued)

Analysis Batch: 31823 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-31783/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31783
880-17808-A-5-C MS	Matrix Spike	Total/NA	Solid	8015B NM	31783
880-17808-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31783

Analysis Batch: 31889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Total/NA	Solid	8015 NM	
890-2730-2	BH01A	Total/NA	Solid	8015 NM	
890-2730-3	BH01B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Soluble	Solid	DI Leach	
890-2730-2	BH01A	Soluble	Solid	DI Leach	
890-2730-3	BH01B	Soluble	Solid	DI Leach	
MB 880-31857/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31857/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31857/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-17798-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17798-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-17801-A-1-G MS	Matrix Spike	Soluble	Solid	DI Leach	
880-17801-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2730-1	BH01	Soluble	Solid	300.0	31857
890-2730-2	BH01A	Soluble	Solid	300.0	31857
890-2730-3	BH01B	Soluble	Solid	300.0	31857
MB 880-31857/1-A	Method Blank	Soluble	Solid	300.0	31857
LCS 880-31857/2-A	Lab Control Sample	Soluble	Solid	300.0	31857
LCSD 880-31857/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31857
880-17798-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	31857
880-17798-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31857
880-17801-A-1-G MS	Matrix Spike	Soluble	Solid	300.0	31857
880-17801-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31857

Lab Chronicle

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Client Sample ID: BH01
Date Collected: 08/04/22 10:30
Date Received: 08/05/22 11:06

Lab Sample ID: 890-2730-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	31852	08/09/22 14:20	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31883	08/11/22 04:16	SM	EET MID
Total/NA	Analysis	Total BTEX		1			31996	08/11/22 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			31889	08/10/22 09:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	31783	08/08/22 14:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31823	08/10/22 01:37	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31857	08/09/22 15:36	AJ	EET MID
Soluble	Analysis	300.0		5			31928	08/12/22 18:49	CH	EET MID

Client Sample ID: BH01A
Date Collected: 08/04/22 11:00
Date Received: 08/05/22 11:06

Lab Sample ID: 890-2730-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	31852	08/09/22 14:20	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31883	08/11/22 04:37	SM	EET MID
Total/NA	Analysis	Total BTEX		1			31996	08/11/22 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			31889	08/10/22 09:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31783	08/08/22 14:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31823	08/10/22 01:59	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	31857	08/09/22 15:36	AJ	EET MID
Soluble	Analysis	300.0		1			31928	08/12/22 18:58	CH	EET MID

Client Sample ID: BH01B
Date Collected: 08/04/22 11:30
Date Received: 08/05/22 11:06

Lab Sample ID: 890-2730-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	31852	08/09/22 14:20	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31883	08/11/22 04:57	SM	EET MID
Total/NA	Analysis	Total BTEX		1			31996	08/11/22 10:57	SM	EET MID
Total/NA	Analysis	8015 NM		1			31889	08/10/22 09:17	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31783	08/08/22 14:50	DM	EET MID
Total/NA	Analysis	8015B NM		1			31823	08/10/22 02:20	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	31857	08/09/22 15:36	AJ	EET MID
Soluble	Analysis	300.0		1			31928	08/12/22 19:07	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

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 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

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 20-24-30

Job ID: 890-2730-1
SDG: 03E1558088

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2730-1	BH01	Solid	08/04/22 10:30	08/05/22 11:06	0.5'
890-2730-2	BH01A	Solid	08/04/22 11:00	08/05/22 11:06	1'
890-2730-3	BH01B	Solid	08/04/22 11:30	08/05/22 11:06	7'

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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	Company Name:	XTO Energy, Inc.
Address:	3122 National Parks Hwy.	Address:	3104 E. Green Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	3372578307	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 20-24-30	Turn Around	
Project Number:	03E1558088	☑ Routine ☐ Rush	
Project Location:	EDDY County	Due Date:	
Sampler's Name:	Chris Brown	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:	TAM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	5.4	
Total Containers:		Corrected Temperature:	5.2	

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SS01	S	8-4-22	1030	.5ft	G	1		x	x	x
SS02	S	8-4-22	1100	1ft	G	1		X	X	X
SS03	S	8-4-22	1130	7ft	G	1		X	X	X

890-2730 Chain of Custody

Sample Comments

Incident ID:
nAPP2217544243
Cost Center:
1081091001
AFE:

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	8/5/22 1101	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2730-1
SDG Number: 03E1558088

Login Number: 2730
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2730-1
SDG Number: 03E1558088

Login Number: 2730
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/08/22 08:34 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Collins, Melanie

From: Baker, Adrian
Sent: Saturday, June 11, 2022 8:06 AM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Nobui, Jennifer, EMNRD
Cc: DelawareSpills /SM; McSpadden, Wes; Sanders, David; Pennington, Shelby G; Green, Garrett J
Subject: 24 hour notification - PLU 20-24-30 Battery release date 6-10-22

Follow Up Flag: Follow up
Flag Status: Flagged

All,

This is notification of a release greater than 25 barrels that occurred yesterday at the PLU 20-24-30 Battery near the GPS coordinates given below. All fluid remained in containment and was removed by vacuum truck. Details will be provided with a form C-141. Please contact us with any questions or concerns.

GPS: 32.210, -103.900

Thank you,

Adrian Baker
Environmental Coordinator
Permian Business Unit

XTO Energy Inc.
6401 N. Holiday Hill Dr.
Midland, Tx 79707
Mobile:(432)-236-3808
adrian.baker@exxonmobil.com

Collins, Melanie

From: Green, Garrett J
Sent: Tuesday, June 21, 2022 3:57 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Nobui, Jennifer, EMNRD
Cc: DelawareSpills /SM
Subject: XTO 48 Hour Liner Notification - PLU 20-24-30 Released on 6-10-22

Good afternoon,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at PLU 20-24-30 released on (6/10/22), on Friday, June 24, 2022, at 10am MST. A 24 hour release notification was sent out on Saturday, June 11, 2022 8:06 AM since the release was greater than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.210, -103.900)

Thank you,

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

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

CONDITIONS

Action 141256

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 141256
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2217544243 POKER LAKE UNIT 20-24-30 TANK BATTERY, thank you. This closure is approved.	12/6/2022