



January 5, 2026

New Mexico Oil Conservation Division

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

**Re: Closure Request
ROW 4 Muy Wayno Pipeline
Facility ID fAPP2218240516
Incident Number NAPP2209039217
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 excavation and soil sampling activities performed at the Right-of-Way (ROW) 4 Muy Wayno Pipeline (Site). The purpose of excavation and soil sampling activities, conducted in accordance with an approved *Remediation Work Plan (Work Plan)*, was to address impacts to soil resulting from a release of produced water at the Site. XTO is submitting this *Closure Request*, describing confirmation of the Closure Criteria and excavation activities that have occurred and requesting no further remediation for Incident Number NAPP2209039217.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit H, Section 07, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.14651°, -103.91241°) and is associated with oil and gas exploration and production operations on State Trust Land managed by the New Mexico State Land Office (SLO) under Lease Number V070660001.

On March 19, 2022, corrosion of a pipeline resulted in the release of approximately 284.67 barrels (bbls) of produced water into the surrounding pipeline ROW. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 260 bbls of released produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on March 19, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 31, 2022. The release was assigned Incident Number NAPP2209039217.

Ensolum conducted Site assessment and delineation activities and presented the results in a *Work Plan*. The *Work Plan* was submitted on June 21, 2022, and approved by the NMOCD on August 25, 2022. The *Work Plan* proposed drilling a depth-to-water (DTW) soil boring to confirm regional depth to groundwater and applicable Closure Criteria. Following confirmation of DTW, XTO proposed excavation of impacted and/or waste-containing soil identified during delineation activities. In addition, due to the aerial extent of the impacts and a lack of nearby sensitive receptors, following confirmation of the depth

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to groundwater, XTO proposed a sampling frequency variance of 500 square feet. The NMOCD approved a sampling frequency variance of 400 square feet. Excavation of impacted and waste containing soil began following the approval of the *Work Plan*. The *Work Plan* is included as an attached to this report for reference.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

On January 15, 2024, a soil boring permitted by the New Mexico Office of the State Engineer (NMOSE) was advanced to a depth of 101 feet below ground surface (bgs) via hollow stem auger drill rig. The borehole was located approximately 165 feet northeast of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned using drill cuttings and hydrated bentonite chips. Based on the confirmed depth to water greater than 100 feet bgs, the Table I Closure Criteria identified in the *Work Plan* are applicable and appropriate for protection of groundwater at this Site. The Well Record & Log is included in Appendix A.

As documented in the approved *Work Plan*, and confirmed by the depth to water boring, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top four feet of the ROW area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet of areas that will be reclaimed following remediation.

SLO CULTURAL RESOURCES AND BIOLOGICAL REVIEW

Cultural Properties Protection

Though the release occurred prior to the implementation of the Cultural Properties Protection (CPP) Rule, the release was identified in the pipeline ROW, and as a result, the release location was assessed for determination of whether the release encroached into undisturbed areas to comply with the CPP. An Archaeological Records Management System (ARMS) review was performed for the ROW and Site. No cultural resources were identified within and/or around the release extent. An approved CPP Rule cover sheet showing the area was previously surveyed is attached in Appendix B.

Biological Review

Ensolium personnel conducted a desktop review to establish if the Site is within an area of possible threatened, endangered, and sensitive wildlife and plant species, environmentally sensitive areas, surface waters, and sensitive soils.

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- A review of the U.S. Fish and Wildlife Services Information for Planning and Consultation (IPaC) resources indicated there are no critical wildlife habitats at the Site. Potential habitats for Texas Hornshell Clam and Piping Plover were identified as potentially being present in nearby areas, but none were observed at the Site. A review of the Bureau of Land Management (BLM) NM Plant Wildlife Habitat maps indicated potential habitats for Scheer's beehive cactus, Wright's waterwillow, and Tharp's blue-star near the Site. No native vegetation outside of the ROW was disturbed during remediation activities.
- The Site is located within an area of possible range of the Lesser Prairie Chicken habitat based on a review of NMSLO Candidate Conservation Agreement with Assurances (CCAA) map.
 - From March 1st through June 15th, no remediation activities occurred between the hours of 3:00 am to 9:00 am to protect any Lesser Prairie Chickens within the area.
- No environmentally sensitive receptors were located near the Site, as determined by the Site Characterization.
- The Natural Resources Conservation Service (NRCS) Web Soil Survey classifies the soil type at the Site as Simmons-Bippus complex. The Simmons-Bippus complex is not considered a sensitive soil per the SLO guidelines.

INITIAL REMEDIATION ACTIVITIES

On April 18, 2022, Ensolum personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five delineation soil samples (SS01 through SS05) were collected within the release extent from a depth of approximately 0.5 feet bgs. The delineation soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and 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 under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

On June 3, 2022, delineation activities were conducted at the Site to assess the vertical extent of impacted soil. Potholes PH01 through PH04 were advanced via track mounted backhoe within the release extent. The potholes were advanced to a depth of 4 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 1-foot to 4 feet bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations from the potholes were documented on lithologic/soil sampling logs, which are included as Appendix D. The delineation soil samples were handled and analyzed as described above. The pothole locations are presented on Figure 2.

Laboratory analytical results for delineation soil samples SS01 through SS05 indicated that chloride concentrations exceeded the Closure Criteria and/or the reclamation standards. Laboratory analytical results for the delineation soil samples collected from pothole PH02 indicated that chloride concentrations were compliant with Closure Criteria and reclamation standards. Laboratory analytical

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results for the delineation samples collected at depths of 1-foot and/or 2 feet bgs from potholes PH01, PH03, and PH04, indicated that chloride concentrations exceeded the reclamation standard. Subsequent delineation samples from potholes PH01, PH03, and PH04, collected at 4 feet bgs, were compliant with Closure Criteria. Based on the laboratory analytical results, the vertical extent of the impacted soil was successfully defined. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix E.

EXCAVATION SOIL SAMPLING ACTIVITIES

Ensolum personnel were onsite between December 1, 2022, and February 28, 2023, to oversee excavation of impacted soil according to the approved *Work Plan*. Excavation activities were performed by use of heavy equipment. To direct excavation activities, soil was field screened for VOCs and chloride. Once field screening indicated impacted soil was adequately removed, 5-point composite soil samples were collected every 400 square feet from the floor and sidewall of the excavation extent according to the approved sampling plan. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS42 were collected from the floor of the excavation at depths ranging from 1-foot to 3 feet bgs. Confirmation soil samples SW01 through SW05 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 3 feet bgs.

In addition, delineation soil samples SS06 through SS11 were collected from a depth of 0.5 feet bgs around the release to confirm the lateral extent. The soil samples were collected, handled, and analyzed by the above methods. The confirmation soil sample locations are depicted on Figure 3. The delineation soil sample locations are depicted in Figure 2.

Laboratory analytical results indicated COCs for confirmation soil samples FS01 through FS10, FS12, FS20, FS23 through FS26, FS28, FS21, FS24 through FS42, SW02 through SW05 were in compliance with Closure Criteria and reclamation requirements. Sidewall confirmation soil sample SW01 indicated chloride concentrations exceeded reclamation requirements and was excavated further with updated nomenclature of SW05. The remaining confirmation soil samples indicated chloride concentrations exceeded reclamation requirements. The additional delineation soil samples, SS06 through SS11, were in compliance with reclamation requirements.

Between June 24 and September 5, 2025, Ensolum personnel returned to the Site to oversee the excavation of chloride impacted soil located in the vicinity of the 2023 confirmation floor soil samples that exceeded the reclamation requirement. Heavy equipment was utilized to complete the excavation to depths ranging from 2 feet to 4 feet bgs. Following the removal of the soil, confirmation floor soil samples were collected utilizing the same nomenclature. In addition, confirmation soil samples, CS01 through CS16 were collected in the areas of release that were not excavated from ground surface. The confirmation soil samples were collected, handled, and submitted for the same COCs as described above. The confirmation soil sample locations were mapped utilizing a GPS unit and are depicted on Figure 3. Photographic documentation of the final excavation extent is provided in Appendix C.

The final excavation extent measured approximately 17,135 square feet. A total of approximately 1,450 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. The final excavation was fenced off pending backfilling.

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LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for all excavation floor and sidewall samples indicated COC concentrations were compliant with the Closure Criteria and the reclamation requirement. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix E.

ADDITIONAL DELINEATION ACTIVITIES

Due to the time between the 2023 excavation and the completion of final sampling, delineation boreholes were advanced within the excavation extent to confirm the absence of elevated chloride concentrations. Delineation boreholes BH01 through BH14 were advanced via hand auger to depths ranging from 4 feet to 6 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 1-foot to 4 feet bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations from the potholes were documented on lithologic/soil sampling logs, which are included as Appendix D. Due to the open excavation, the delineation boreholes began at the excavation floor depth and were advanced until hand auger refusal due to a competent formation layer. The delineation soil sample locations are depicted in Figure 2.

Laboratory analytical results for the additional delineation boreholes within the release extent indicated all COCs were in compliance with Closure Criteria and reclamation requirements, confirming all chloride impacted soil has been remediated at the Site.

CLOSURE REQUEST

Excavation activities were conducted at the Site in accordance with the *Work Plan* to address the March 2022 release of produced water. Laboratory analytical results for all final excavation soil samples collected indicate COC concentrations were compliant with the Closure Criteria. Based on the soil sample laboratory analytical results, no further remediation is required. The excavation has been backfilled with material purchased locally and the Site has been recontoured to match pre-existing site conditions.

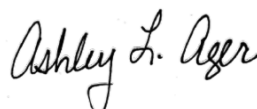
Excavation of soil has mitigated impacts exceeding the Closure Criteria at the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2209039217.

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

Sincerely,
Ensolum, LLC



Benjamin J. Belill
Senior Geologist



Ashley L. Ager, M.S., P.G.
Principal

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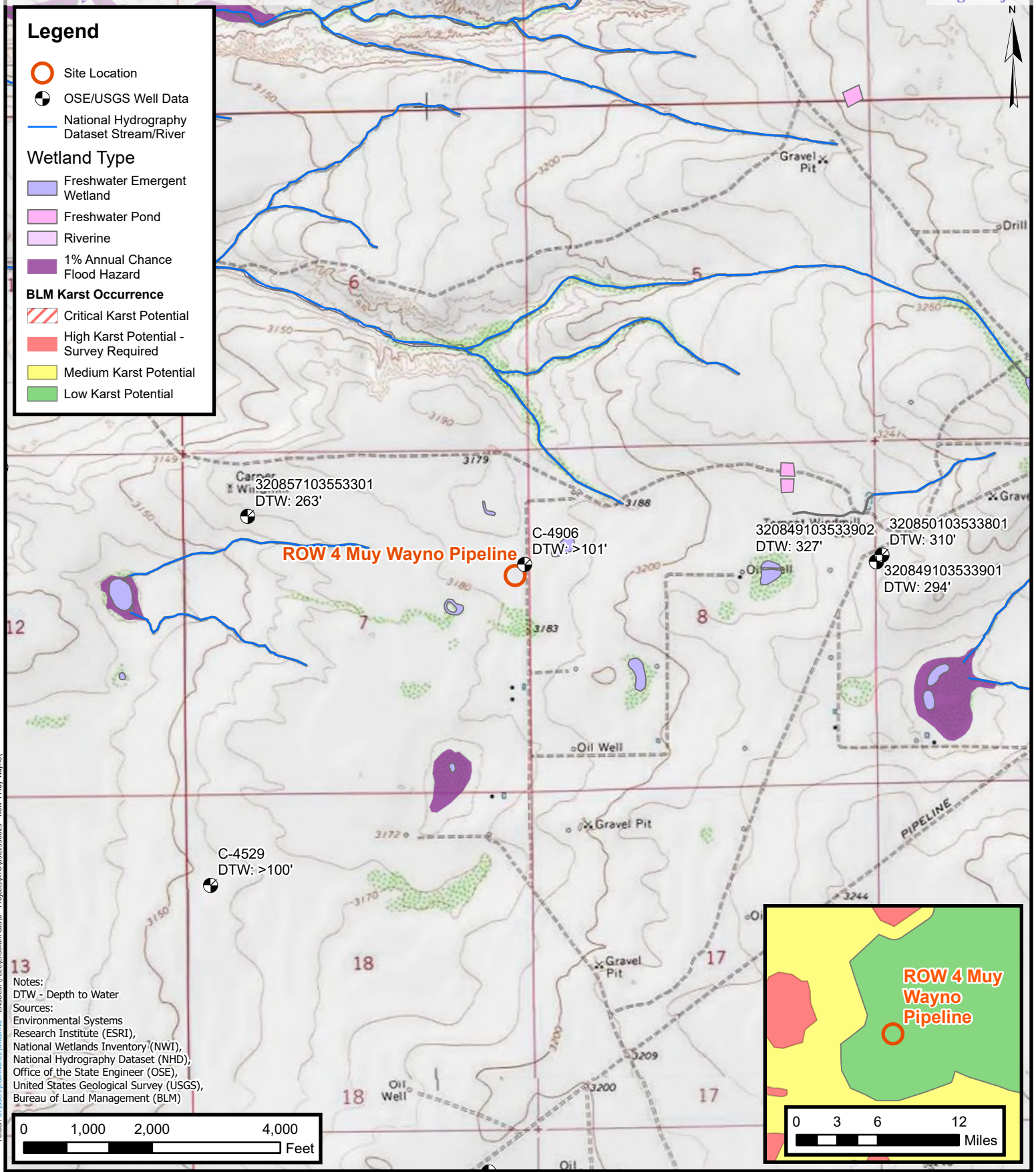
cc: Robert Woodall, XTO
Richard Kotzur, XTO
SLO

Appendices:

Figure 1 Site Receptor Map
Figure 2 Delineation Soil Sample Locations
Figure 3 Confirmation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records
Appendix B Land Access References
Appendix C Photographic Log
Appendix D Lithologic Soil Sampling Logs
Appendix E Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix F *Remediation Work Plan*; dated June 16, 2022



FIGURES



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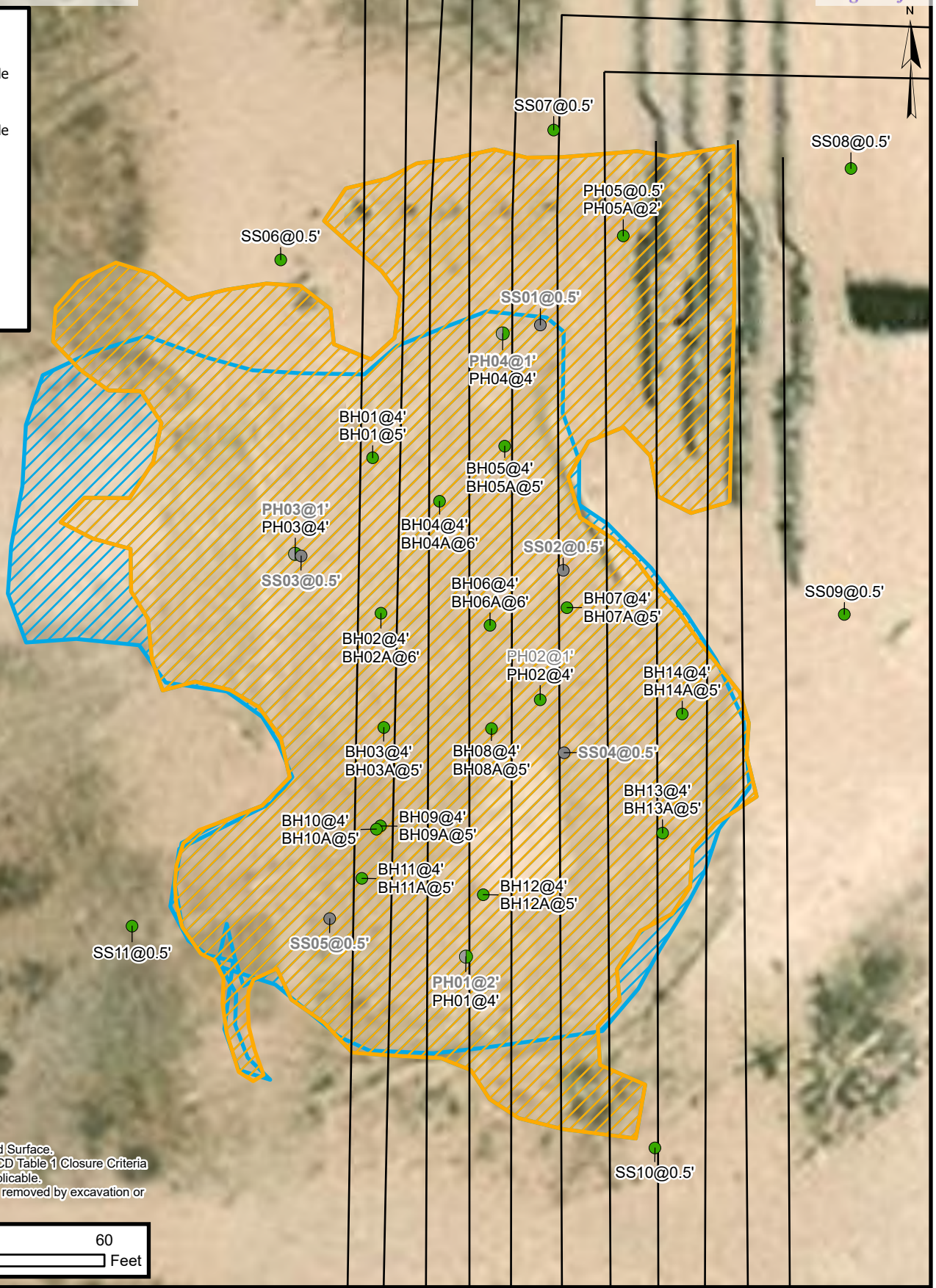
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map
XTO Energy, Inc
ROW 4 Muy Wayno Pipeline
Incident Number: NAPP2209039217
Unit H, Section 07, T 25S, R 30E
Eddy County, New Mexico

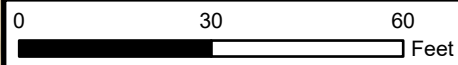
FIGURE
1

Legend

- Delineation Soil Sample in Compliance with Closure Criteria
- Delineation Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Concentrations Previously Exceeding Closure Criteria
- Release Extent
- Excavation Extent
- Pipeline/Line/Utility



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.
 Grey text indicate soil sample was removed by excavation or area was resampled.



Delineation Soil Sample Locations

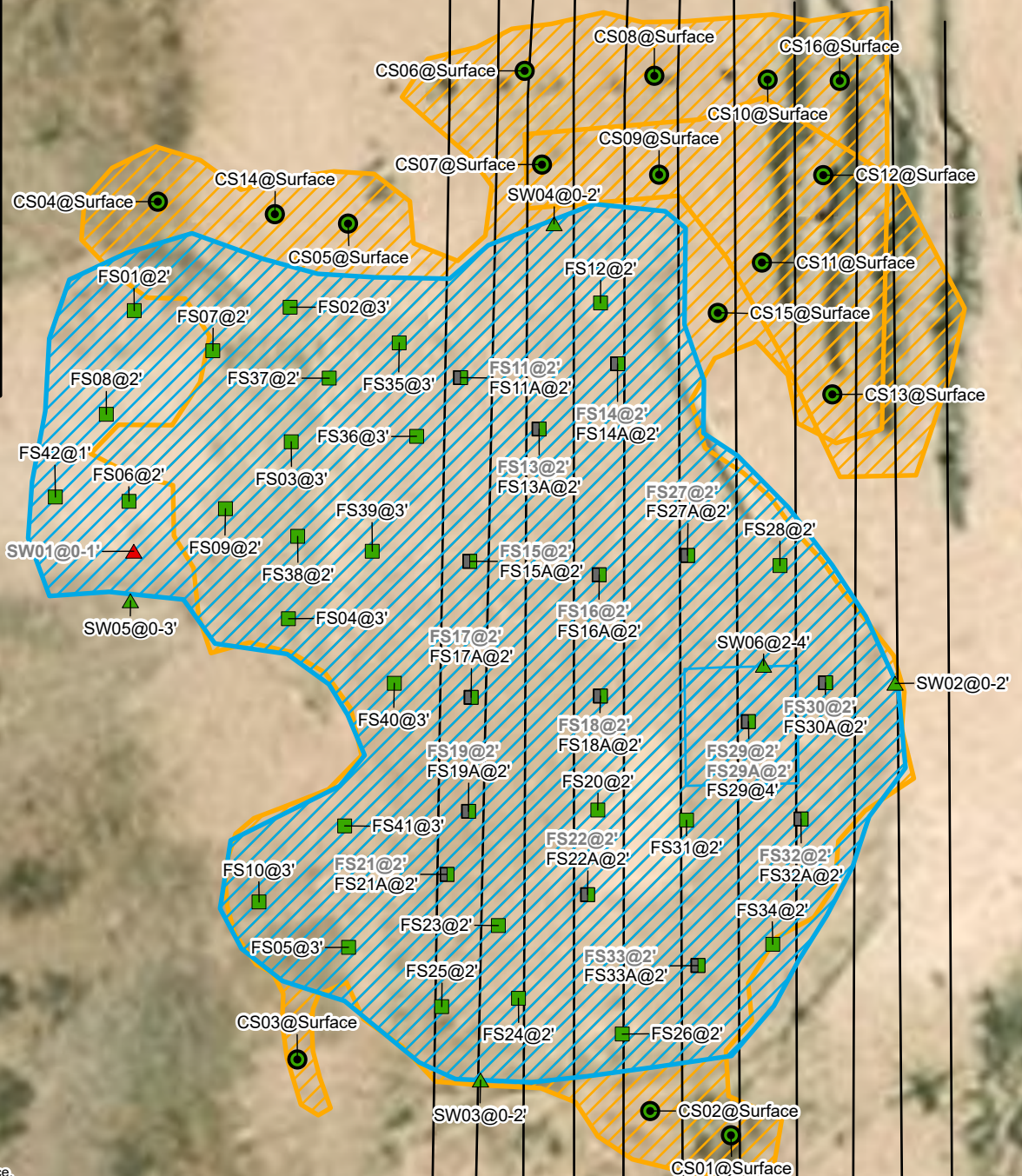
XTO Energy, Inc
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 Unit H, Section 07, T 25S, R 30E
 Eddy County, New Mexico

FIGURE
2

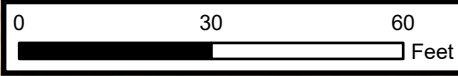


Legend

- Excavation Floor Soil Sample in Compliance with Closure Criteria
- Excavation Floor Soil Sample with Concentrations Previously Exceeding Closure Criteria
- Excavation Sidewall Soil Sample in Compliance with Closure Criteria
- Excavation Sidewall Soil Sample with Concentrations Exceeding Closure Criteria
- Confirmation Soil Sample in Compliance with Closure Criteria
- Release Extent
- Pipeline/Line/Utility
- Excavation Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.
 Grey text indicate soil sample was removed by excavation or area was resampled.



Confirmation Soil Sample Locations

XTO Energy, Inc
 ROW 4 Muy Wayno Pipeline
 Incident Number: NAPP2209039217
 Unit H, Section 07, T 25S, R 30E
 Eddy County, New Mexico

FIGURE
 3





TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 ROW 4 Muy Wayno Pipeline
 XTO Energy, Inc
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NA	NA	NA	1,000	2,500	20,000
Delineation Soil Samples										
SS01	4/18/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	28,900
SS02	4/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	9,390
SS03	4/18/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	9,060
SS04	4/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	13,000
SS05	4/18/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	11,500
SS06	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	70.3
SS07	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	62.8
SS08	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	63.6
SS09	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	71.4
SS10	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	56.8
SS11	2/27/2023	0.5	NA	NA	NA	NA	NA	NA	NA	162
PH01	6/3/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	5,340
PH01	6/3/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,670
PH02	6/3/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	478
PH02	6/3/2022	4	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	97.1
PH03	6/3/2022	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	3,020
PH03	6/3/2022	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	153
PH04	6/3/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,860
PH04	6/3/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	35.3
PH05	2/28/2023	0.5	NA	NA	NA	NA	NA	NA	NA	117
PH05A	2/28/2023	2	NA	NA	NA	NA	NA	NA	NA	403
BH01 @ FS11	8/18/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
BH01	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH02 @ FS15	8/18/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH02A @ FS15	8/18/2025	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH03	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
BH03A	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
BH04	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
BH04A	8/20/2025	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
BH05	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304
BH05A	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 ROW 4 Muy Wayno Pipeline
 XTO Energy, Inc
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NA	NA	NA	1,000	2,500	20,000
BH06	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH06A	8/20/2025	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH07	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH07A	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH08	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH08A	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH09	8/20/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH09A	8/20/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH10	8/25/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH10A	8/25/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH11	8/25/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
BH11A	8/25/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH12	8/25/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
BH12A	8/25/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
BH13	8/25/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
BH13A	8/25/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
BH14	8/25/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	560
BH14A	8/25/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
Confirmation Soil Samples										
CS01	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
CS02	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
CS03	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
CS04	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	304
CS05	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
CS06	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
CS07	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
CS08	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
CS09	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
CS10	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
CS11	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
CS12	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128
CS13	6/25/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 ROW 4 Muy Wayno Pipeline
 XTO Energy, Inc
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NA	NA	NA	1,000	2,500	20,000
CS14	7/23/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
CS15	7/23/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
CS16	7/23/2025	Surface	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS01	12/05/2022	2	<0.00199	<0.00398	70.0	<50.0	<50.0	70.0	70.0	348
FS02	12/01/2022	3	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	160
FS03	12/01/2022	3	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	31.9
FS04	12/01/2022	3	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	165
FS05	12/08/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	16.5
FS06	12/08/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	198
FS07	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	221
FS08	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	573
FS09	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	331
FS10	2/9/2023	3	NA	NA	NA	NA	NA	NA	NA	50.7
FS11	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	3,640
FS11A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS12	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	241
FS13	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	3,920
FS13A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
FS14	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	874
FS14A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS15	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	3,920
FS15A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS16	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	3,830
FS16A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS17	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	744
FS17A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
FS18	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	2,440
FS18A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
FS19	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	3,130
FS19A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS20	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	375



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 ROW 4 Muy Wayno Pipeline
 XTO Energy, Inc
 Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NA	NA	NA	1,000	2,500	20,000
FS24	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	6,660
FS21A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS22	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	2,080
FS22A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
FS23	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	285
FS24	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	330
FS25	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	<4.98
FS26	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	552
FS27	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	1,090
FS27A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS28	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	202
FS29	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	1,780
FS29A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	942
FS29	9/5/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
FS30	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	6,040
FS30A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS31	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	504
FS32	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	1,350
FS32A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS33	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	4,000
FS33A	6/24/2025	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
FS34	2/9/2023	2	NA	NA	NA	NA	NA	NA	NA	69.4
FS35	2/28/2023	3	NA	NA	NA	NA	NA	NA	NA	380
FS36	2/28/2023	3	NA	NA	NA	NA	NA	NA	NA	172
FS37	2/28/2023	2	NA	NA	NA	NA	NA	NA	NA	409
FS38	2/28/2023	2	NA	NA	NA	NA	NA	NA	NA	424
FS39	2/28/2023	3	NA	NA	NA	NA	NA	NA	NA	41.3
FS40	2/28/2023	3	NA	NA	NA	NA	NA	NA	NA	61.4
FS41	2/28/2023	3	NA	NA	NA	NA	NA	NA	NA	352
FS42	2/28/2023	1	NA	NA	NA	NA	NA	NA	NA	359
SW01	12/5/2022	0-3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	854



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 ROW 4 Muy Wayno Pipeline
 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	NA	NA	NA	1,000	2,500	20,000
SW02	12/9/2022	0-2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	71.0
SW03	2/9/2023	0-2	NA	NA	NA	NA	NA	NA	NA	108
SW04	2/9/2023	0-2	NA	NA	NA	NA	NA	NA	NA	534
SW05	2/27/2023	0-3	NA	NA	NA	NA	NA	NA	NA	257
SW06	9/5/2025	2-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352

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.
 Concentrations in grey indicate soil sample was removed by excavation or area was resampled.

GRO: Gasoline Range Organics
 DRO: Diesel Range Organics
 ORO: Oil Range Organics
 TPH: Total Petroleum Hydrocarbon
 NA: Not Analyzed



APPENDIX A

Referenced Well Records



2904 W 2nd St.
Roswell, NM 88201
voice: 575.624.2420
fax: 575.624.2421
www.atkinseng.com

August 4st, 2025

DII-NMOSE
1900 W 2nd Street
Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Refile of Well Record C-4906 Pod-1

To whom it may concern:

Attached please find a corrected well log & record and plugging record, the NMOSE file number was miss labeled The original was filed on February 18th, 2025. Corrected in duplicate, for a one (1) soil borings, C-4906 Pod-1.

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

A handwritten signature in black ink that reads "Lucas Middleton". The signature is written in a cursive style.

Lucas Middleton

Enclosures: as noted above

DSE DII ROSWELL NM
4 AUG '25 AM 10:53



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD 1 (TW-1)		WELL TAG ID NO. N/A		OSE FILE NO(S). C-4906			
	WELL OWNER NAME(S) XTO Energy, Inc.				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 3104 E. Greene St.				CITY Carlsbad		STATE NM	
					ZIP 88220			
	WELL LOCATION (FROM GPS)	DEGREES 32	MINUTES 8	SECONDS 15.35	N		* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
	LONGITUDE 103	49	54.69	W		* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NE NW NE Sec. 7 T25S R30E,NMPM								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 1/15/2024	DRILLING ENDED 1/15/2024	DEPTH OF COMPLETED WELL (FT) Temporary Well Material	BORE HOLE DEPTH (FT) ±101	DEPTH WATER FIRST ENCOUNTERED (FT) N/A			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN *add Centralizer info below <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A	DATE STATIC MEASURED 2/13/2025		
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger					CHECK HERE IF PITLESS ADAPTER IS INSTALLED <input type="checkbox"/>		
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	101	±6.25	Soil Boring	-	-	-	-
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL <i>*(if using Centralizers for Artesian wells- indicate the spacing below)</i>	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
				N/A				

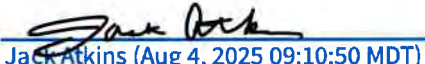
FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		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)
	FROM	TO			Y	N	
	0	9	9	Sand, fine-grained, poorly-graded, unconsolidated, Reddish Brown	Y	✓ N	
	9	34	25	Sand, fine-grained, poorly-graded, caliche layering Tannish White	Y	✓ N	
	34	67	71	Sand, fine-grained, poorly-graded, unconsolidated, Tannish Brown	Y	✓ N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
					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:					TOTAL ESTIMATED WELL YIELD (gpm):		
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:							

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:	Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface. Manyo Way
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Shane Eldridge, Cameron Pruitt	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 Jackie D. Atkins SIGNATURE OF DRILLER / PRINT SIGNEE NAME	08 /04 /2025 DATE

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 09/22/2022)	
FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: C-4906-POD-1
Well owner: XTO Energy, Inc. Phone No.: _____
Mailing address: 3104 E. Greene St.
City: Carlsbad State: New Mexico Zip code: 88220

II. WELL PLUGGING INFORMATION:

- 1) Name of well drilling company that plugged well: Jackie D. Atkins (Atkins Engineering Associates Inc.)
- 2) New Mexico Well Driller License No.: 1249 Expiration Date: 04/30/25
- 3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Lucas Middleton
- 4) Date well plugging began: 02/13/2025 Date well plugging concluded: 02/13/2025
- 5) GPS Well Location: Latitude: 32 deg, 8 min, 49.52 sec
Longitude: 103 deg, 54 min, 44.54 sec, WGS 84
- 6) Depth of well confirmed at initiation of plugging as: 101 ft below ground level (bgl),
by the following manner: water level probe
- 7) Static water level measured at initiation of plugging: n/a ft bgl
- 8) Date well plugging plan of operations was approved by the State Engineer: 11/07/2025
- 9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

OSE DII ROSWELL NM
4 AUG '25 AM 10:58

- 10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:


<u>Depth</u> (ft bgl)	<u>Plugging Material Used</u> (include any additives used)	<u>Volume of Material Placed</u> (gallons)	<u>Theoretical Volume of Borehole/ Casing</u> (gallons)	<u>Placement Method</u> (tremie pipe, other)	<u>Comments</u> ("casing perforated first", "open annular space also plugged", etc.)
0-10'	Hydrated Bentonite	Approx. 15 gallons	15 gallons	tremie	
10'-101'	Drill Cuttings	Approx. 145 gallons	145gallons	Boring	

DSE DISTRICT ROSWELL NM
4 AUG '25 AM 10:58

MULTIPLY	BY	AND OBTAIN
cubic feet x	7.4805	= gallons
cubic yards x	201.97	= gallons

III. SIGNATURE:

I, Jackie D. Atkins, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.


Jack Atkins (Aug 4, 2025 09:10:50 MDT)

Signature of Well Driller

08/04/2025

Date






WR-20 Well Record and Log-packet-forsign-manyo

Final Audit Report

2025-08-04

Created:	2025-08-04
By:	Lucas Middleton (lucas@atkinseng.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA65Bn9JNYII4lschj9CeUv537UHpwJJVm

"WR-20 Well Record and Log-packet-forsign-manyo" History

-  Document created by Lucas Middleton (lucas@atkinseng.com)
2025-08-04 - 2:06:06 PM GMT
-  Document emailed to Jack Atkins (jack@atkinseng.com) for signature
2025-08-04 - 2:06:12 PM GMT
-  Email viewed by Jack Atkins (jack@atkinseng.com)
2025-08-04 - 3:09:40 PM GMT
-  Document e-signed by Jack Atkins (jack@atkinseng.com)
Signature Date: 2025-08-04 - 3:10:50 PM GMT - Time Source: server
-  Agreement completed.
2025-08-04 - 3:10:50 PM GMT

OSE DII ROSWELL NM
4 AUG '25 AM 10:58



APPENDIX B

Land Access References



Stephanie Garcia Richard, Commissioner of Public Lands
State of New Mexico

NMSLO Cultural Resources Cover Sheet Exhibit

NMCRIS Activity Number:

(if applicable)

Exhibit Type (select one)

ARMS Inspection/Review - Summarize the results (select one):

- (A) The entire area of potential effect or project area has been previously surveyed to current standards and **no cultural properties** were found within the survey area.
- (B) The entire area of potential effect or project area has been previously surveyed to current standards and **cultural properties were found** within the survey area.
- (C) The entire area of potential effect or project area has **not** been previously surveyed or **has not been surveyed** to current standards. A complete archaeological survey will be conducted and submitted for review.

Archaeological Survey

Findings:

Negative - No further archaeological review is required.

Positive - Have avoidance and protection measures been devised? Select one:

Comments:

Project Details:

NMSLO Lease Number (if available):

Cultural Resources Consultant:

Project Proponent (Applicant):

Project Title/Description:

Project Location:

County(ies):

PLSS/Section/Township/Range):

For NMSLO Agency Use Only:

NMSLO Lease Number:

Acknowledgment-Only:

Lease Analyst:

Date Exhibit Routed to Cultural Resources Office:

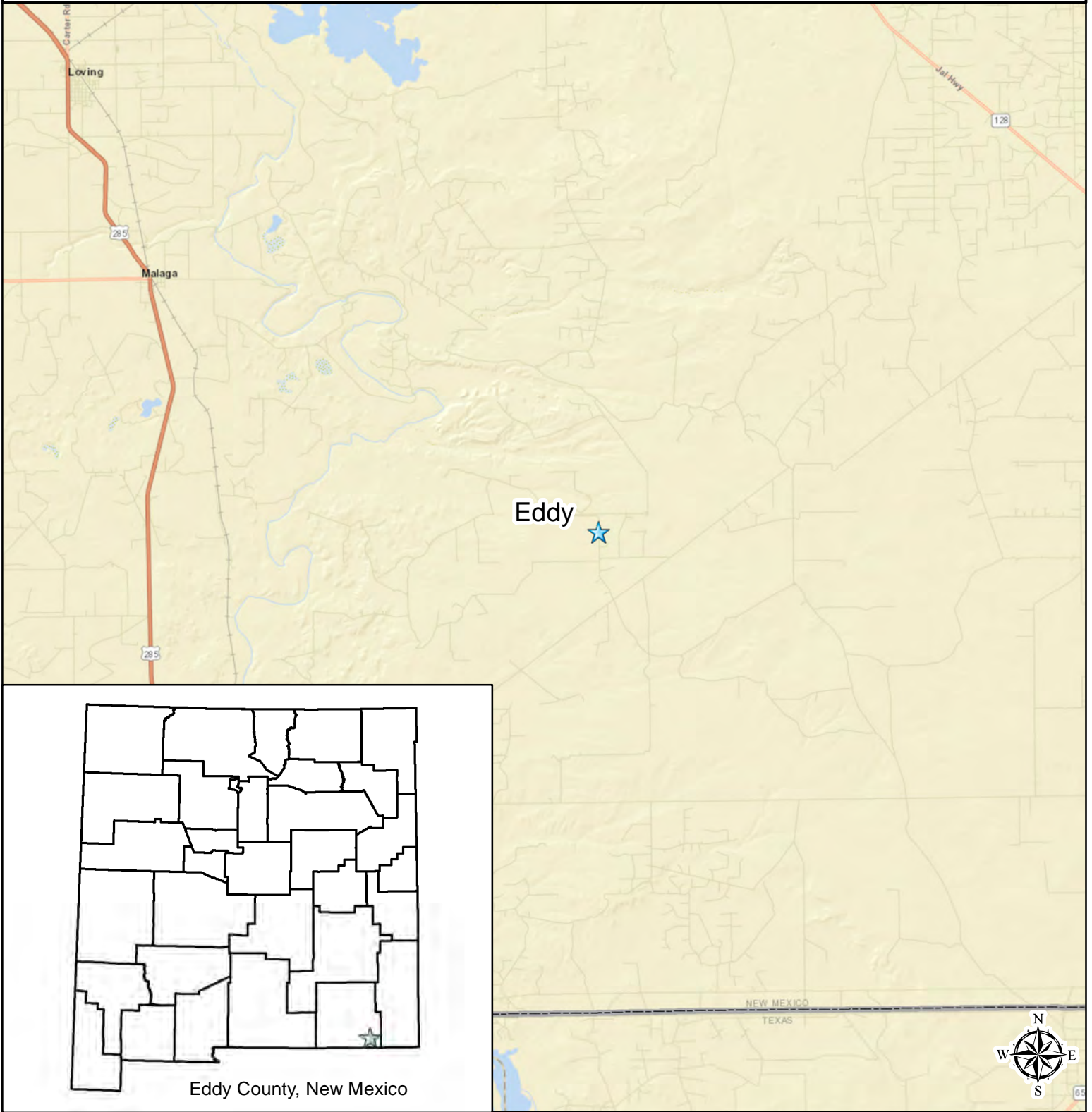
No person may alter the wording of the questions or layout of the cover sheet. The completion of this cover sheet by itself does not authorize anyone to engage in new surface disturbing activity before the review and approvals required by the Cultural Properties Protections Rule.

Form Revised 12 22



Beaver Creek ARCHAEOLOGY

XTO's ROW 4 Muy Wayno
Ensolum, LLC
T25S R30E Sec.7
Pierce Canyon(1968) Quad. Map
Upper Pecos-Black Drainage
Eddy County, New Mexico



Legend

 Project Location



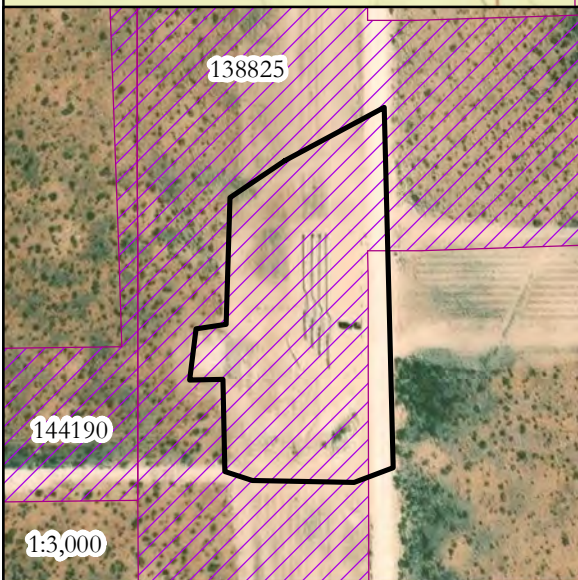
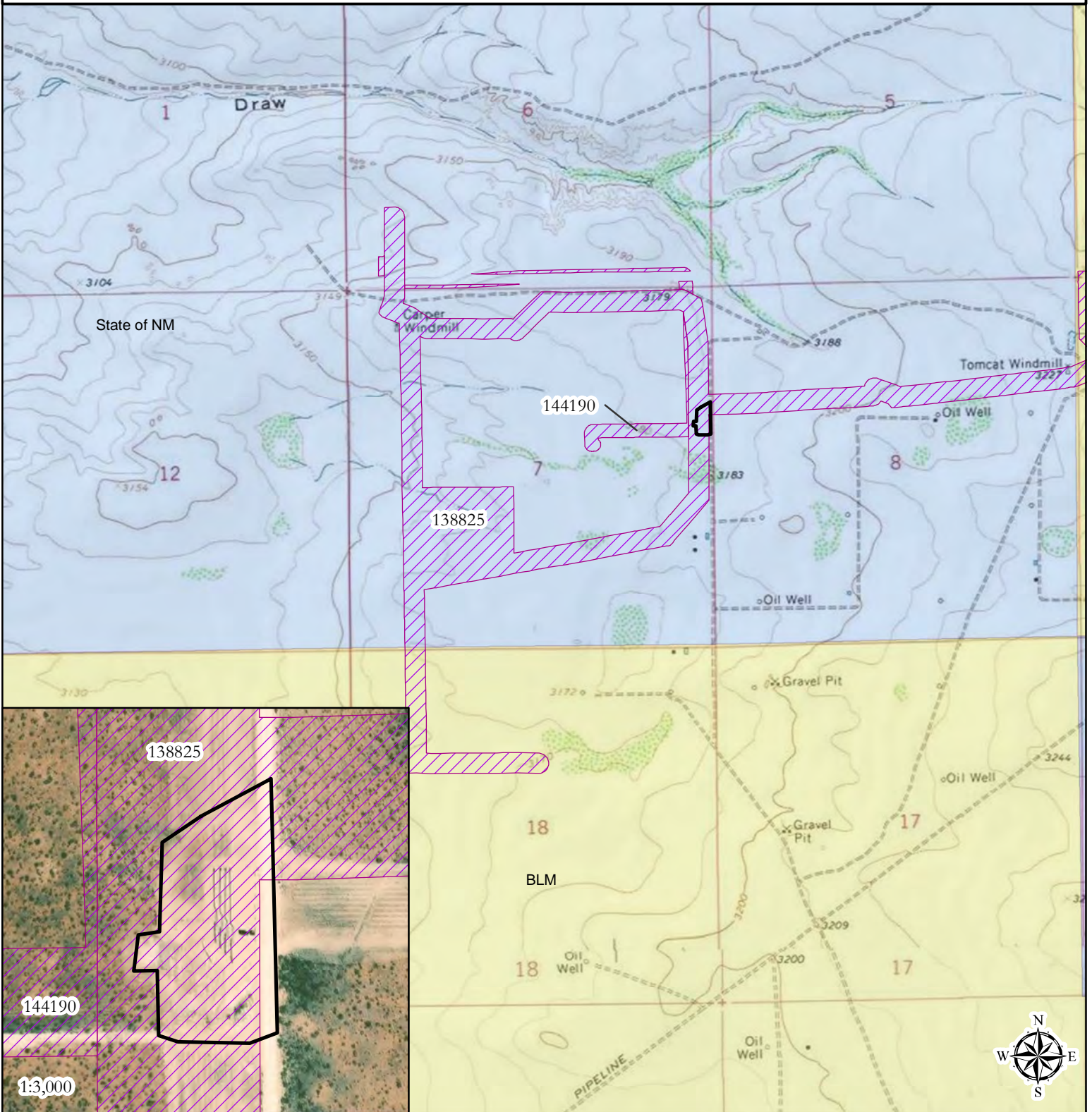
Base Map: USGS 7.5'
Scale: 1:180,000
UTM NAD83 Zone 13







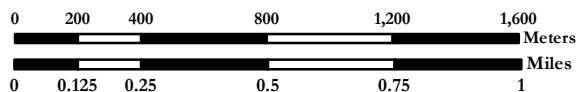
Beaver Creek ARCHAEOLOGY

XTO's ROW 4 Muy Wayno
Ensolum, LLC
T25S R30E Sec.7
Pierce Canyon(1968) Quad. Map
Upper Pecos-Black Drainage
Eddy County, New Mexico



Legend

-  Workspace Limits (2 Acres)
-  Previously Surveyed



Base Map: USGS 7.5'
Scale: 1:24,000
UTM NAD83 Zone 13



Stephanie Garcia Richard
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

COMMISSIONER'S OFFICE
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

MEMORANDUM

TO: Ensolum

FROM: Anne Curry, *Trust Land Archaeologist*
(505) 469-5582
acurry@slo.state.nm.us

SUBJECT: Ensolum on behalf of XTO
Remediation for: Muy Wayno
Section 7, T25S, R30E, N.M.P.M. Eddy County

REFERENCE: NMSLO Cultural Properties Protection Rule (19.2.24 NMAC)

DATE: 10/28/2024

Thank you for your submission relating to the Proponent's proposed remediation activities at Muy Wayno. An archaeological survey of the entire area of potential effect has been completed and no cultural properties were identified. Pursuant to NMSLO 19.2.24.8 (C) NMAC, remediation may proceed.

If any cultural materials are inadvertently encountered during surface disturbance, work must cease within 50 feet and the NMSLO Cultural Resources Office must be notified immediately by emailing (CROinfo@slo.state.nm.us). Please reach out if you have questions or need additional clarification.



APPENDIX C
Photographic Log



Photographic Log
 XTO Energy Inc.
 ROW 4 Muy Wayno Line
 Incident # nAPP2209039217



Photograph: 1 Date: 3/19/2022
 Description: Initial Release
 View: Direct



Photograph: 2 Date: 4/18/2022
 Description: Site Assessment Activities
 View: Direct



Photograph: 3 Date: 6/3/2022
 Description: Delineation activities; near PH01
 View: North



Photograph: 4 Date: 6/3/2022
 Description: Delineation activities; near PH03
 View: North



Photographic Log
XTO Energy Inc.
ROW 4 Muy Wayno Line
Incident # nAPP2209039217



Photograph: 5 Date: 12/5/2022
Description: Excavation Activities; near FS02
View: Southwest

Photograph: 6 Date: 12/7/2022
Description: Excavation Activities; near FS05
View: Northwest



Photograph: 7 Date: 12/8/2022
Description: Excavation activities; near FS01
View: Southeast

Photograph: 8 Date: 2/9/2023
Description: Excavation activities; near FS24
View: North



Photographic Log
 XTO Energy Inc.
 ROW 4 Muy Wayno Line
 Incident # nAPP2209039217

Date & Time: Wed, Jul 23, 2025 at 10:27:51 MDT
 Position: +032.146616 / -103.912779 / ±11.09m
 Altitude: 3194ft (±9.9ft)
 Datum: WGS-84
 Azimuth/Bearing: 134.542F, 74.8mils True (±1.9)
 Elevation Angle: -08.5°
 Horizon Angle: 0158°
 Zoom: 1.0X
 Row 4 Muy Wayno



Date & Time: Wed, Jul 23, 2025 at 10:27:51 MDT
 Position: +032.146616 / -103.912779 / ±11.09m
 Altitude: 3194ft (±9.9ft)
 Datum: WGS-84
 Azimuth/Bearing: 134.542F, 74.8mils True (±1.9)
 Elevation Angle: -08.5°
 Horizon Angle: 0158°
 Zoom: 1.0X
 Row 4 Muy Wayno



Photograph: 9 Date: 6/24/2025
 Description: Risers by excavation; near CS13
 View: Northwest

Photograph: 10 Date: 7/23/2025
 Description: Risers by excavation; near CS06
 View: Southeast

SE 120 150 180 210 S
 153°SE (T) • 32.146379, -103.912808 ±3m ▲ 953m



Row 4 muy wayno
 18 Aug 2025, 1:51:20 PM

W 270 300 330 360 NW N 0
 313°NW (T) • 32.146341, -103.912596 ±3m ▲ 952m



Row 4 muy wayno
 Wed, Aug 13, 2025, 1:51:20 PM

Photograph: 11 Date: 8/18/2025
 Description: Delineation Activities; near BH02
 View: Southeast

Photograph: 12 Date: 8/20/2025
 Description: Delineation activities; near BH14
 View: Northwest



Photographic Log
XTO Energy Inc.
ROW 4 Muy Wayno Line
Incident # nAPP2209039217



Photograph: 13 Date: 8/20/2025
Description: Excavation Activities; near BH04
View: Northeast

Photograph: 14 Date: 8/26/2025
Description: Excavation activities; near FS29
View: North




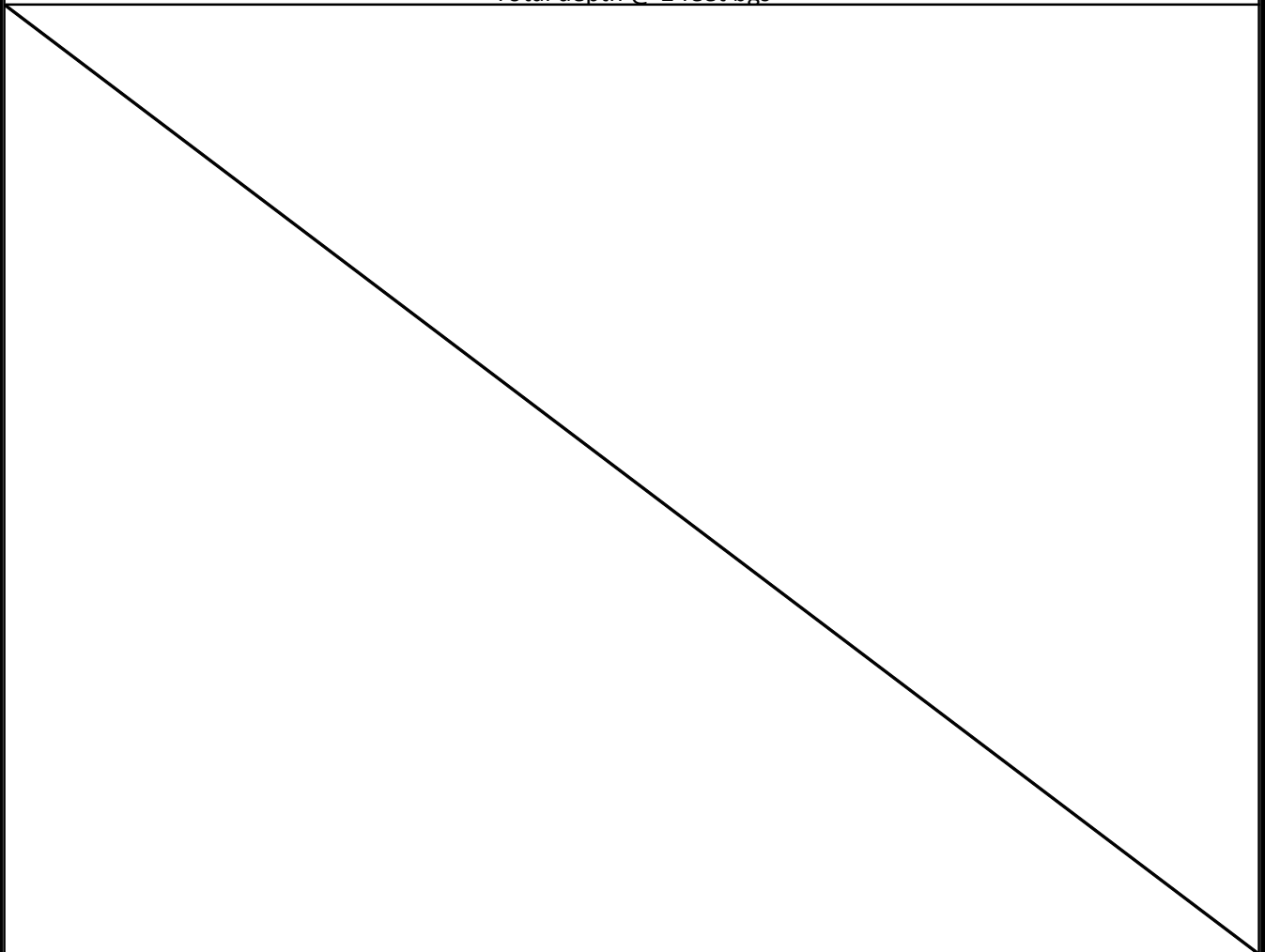
Photograph: 15 Date: 8/26/2025
Description: Excavation Activities; near FS29
View: Northwest


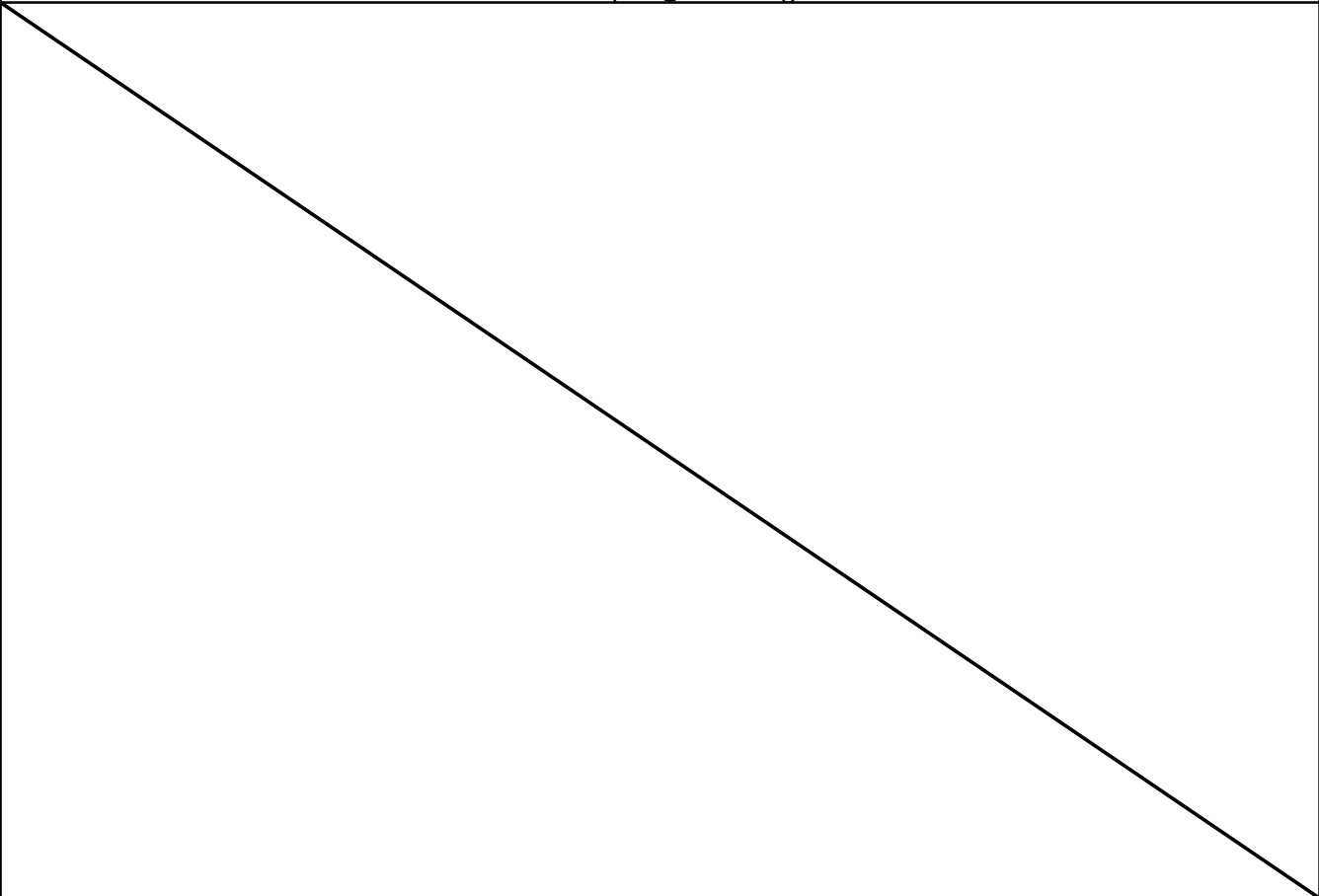
Photograph: 16 Date: 9/5/2025
Description: Sampling Activities; near FS29
View: Southeast


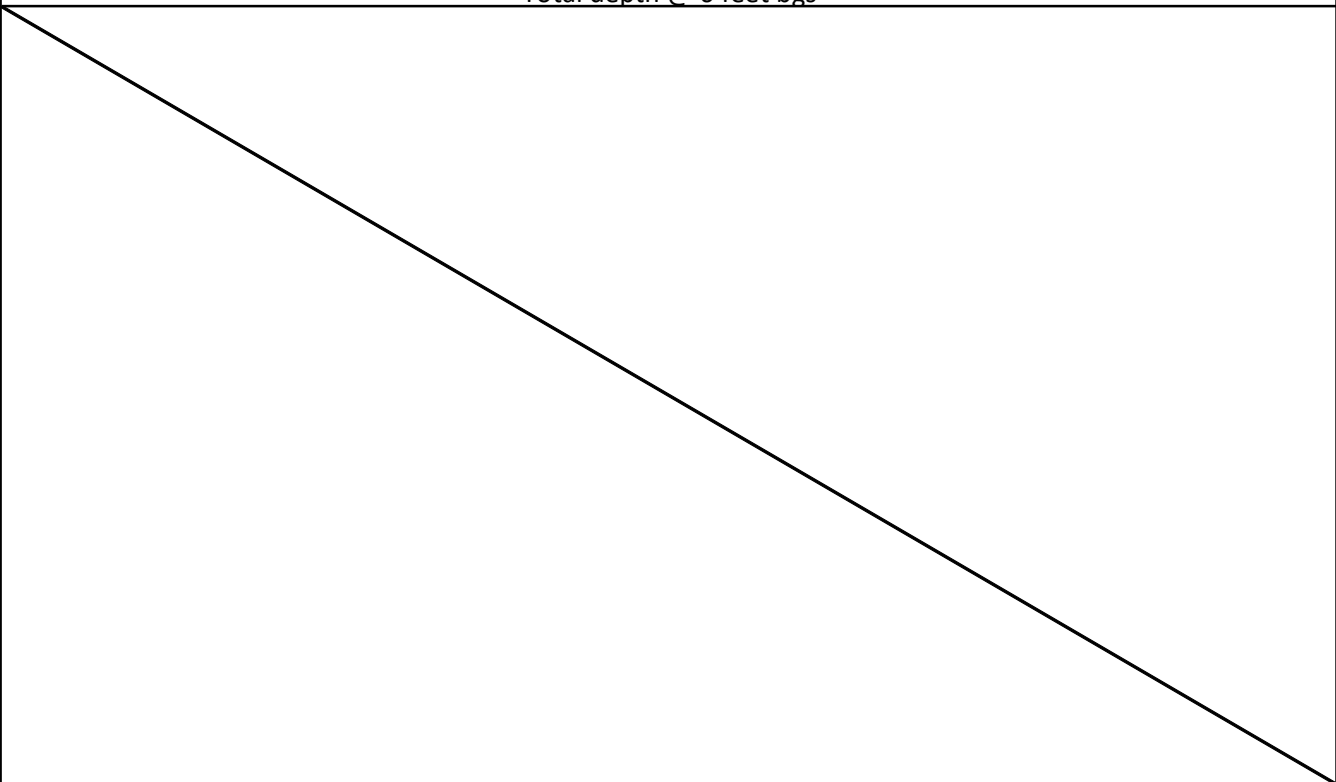



APPENDIX D


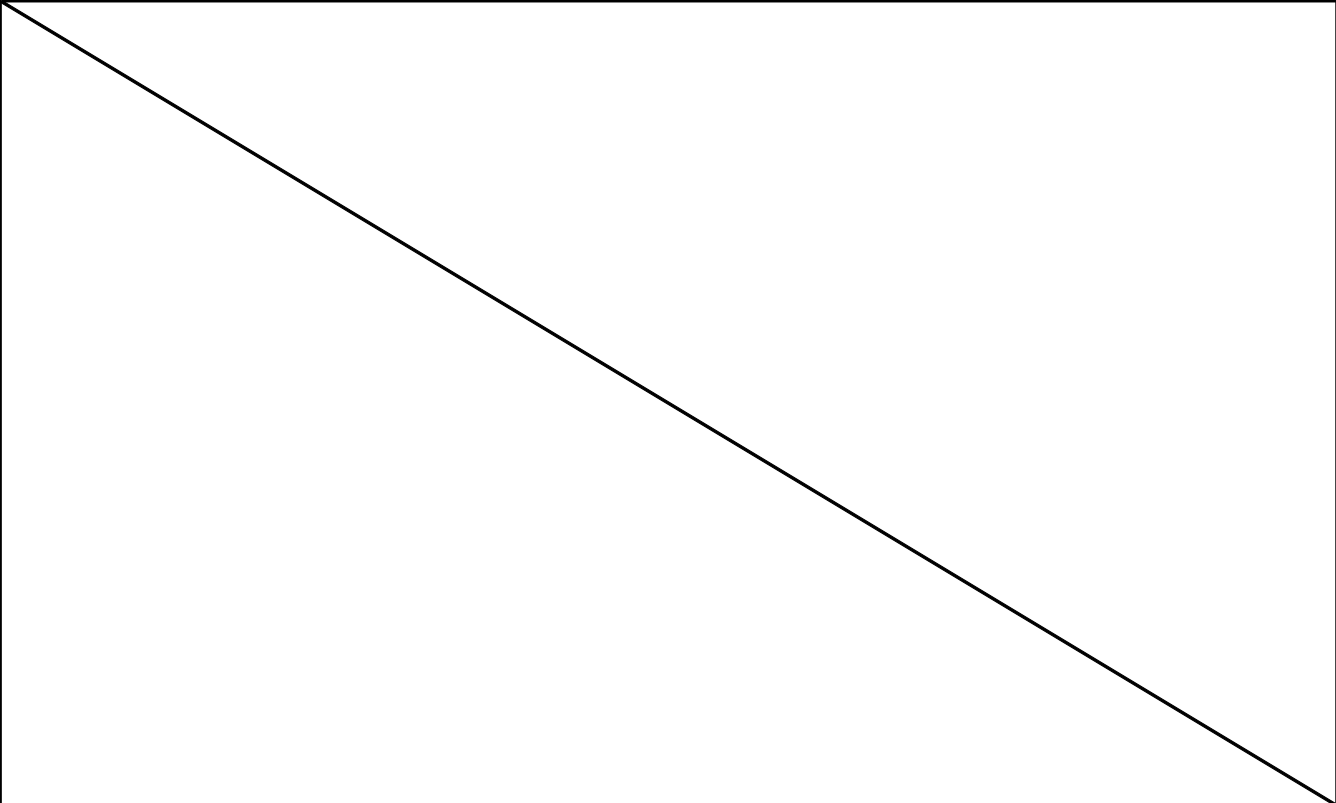
Lithologic Soil Sampling Logs


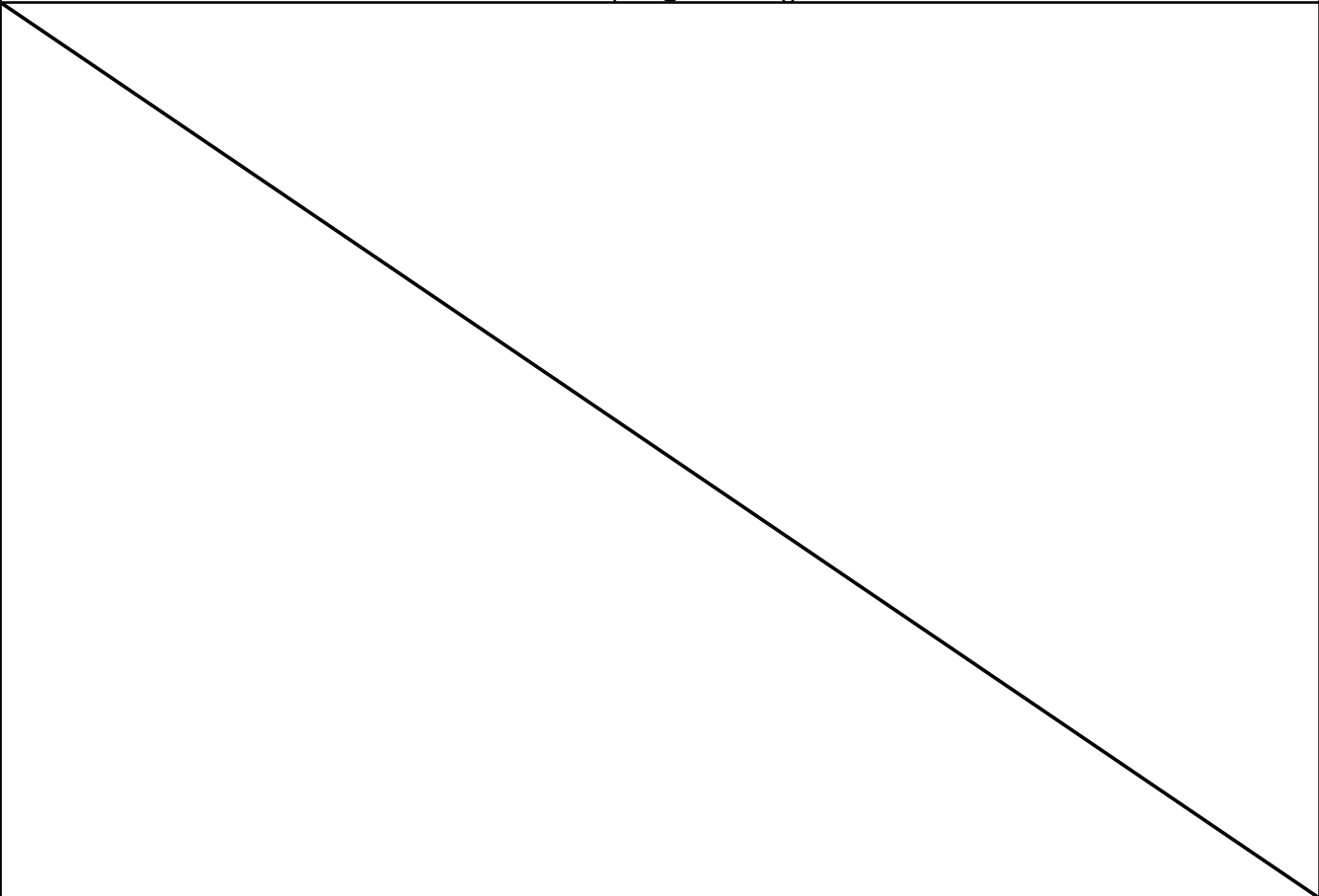
					Sample Name: PH05		Date: 8/25/25			
					Site Name: Row 4 Muy Wayno Flowline					
					Incident Number: nAPP2209039217					
					Job Number: 03C1558023					
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: CW		Method: Hand tools			
Coordinates: 32.146594, -103.912611					Hole Diameter: 2'		Total Depth: 2'			
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0	N	PH05	0.5	0	SP	(0-2') very fine brown sand with CCHE, some silt poorly graded, no odor		
D	240	0.0	N			1				
D	364	0.0	N	PH05A	2	2				
Total depth @ 2 feet bgs										
										


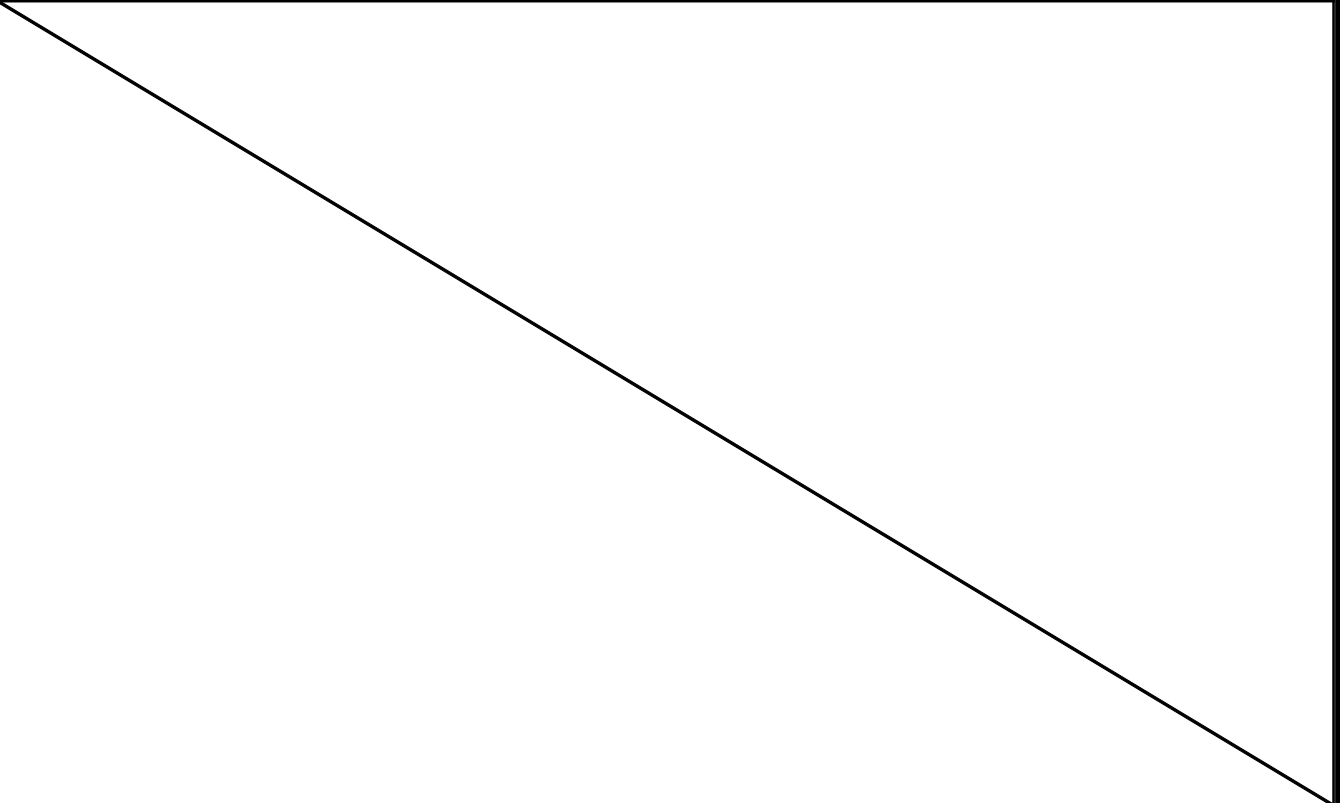
							Sample Name: BH01		Date: 8/18/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146471, -103.912793							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
						2	SW-SM	(2-4') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
						3				
D	<168	0.0	N	BH01 @ FS11	4	4	CCHE	(4-5') light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH01	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										


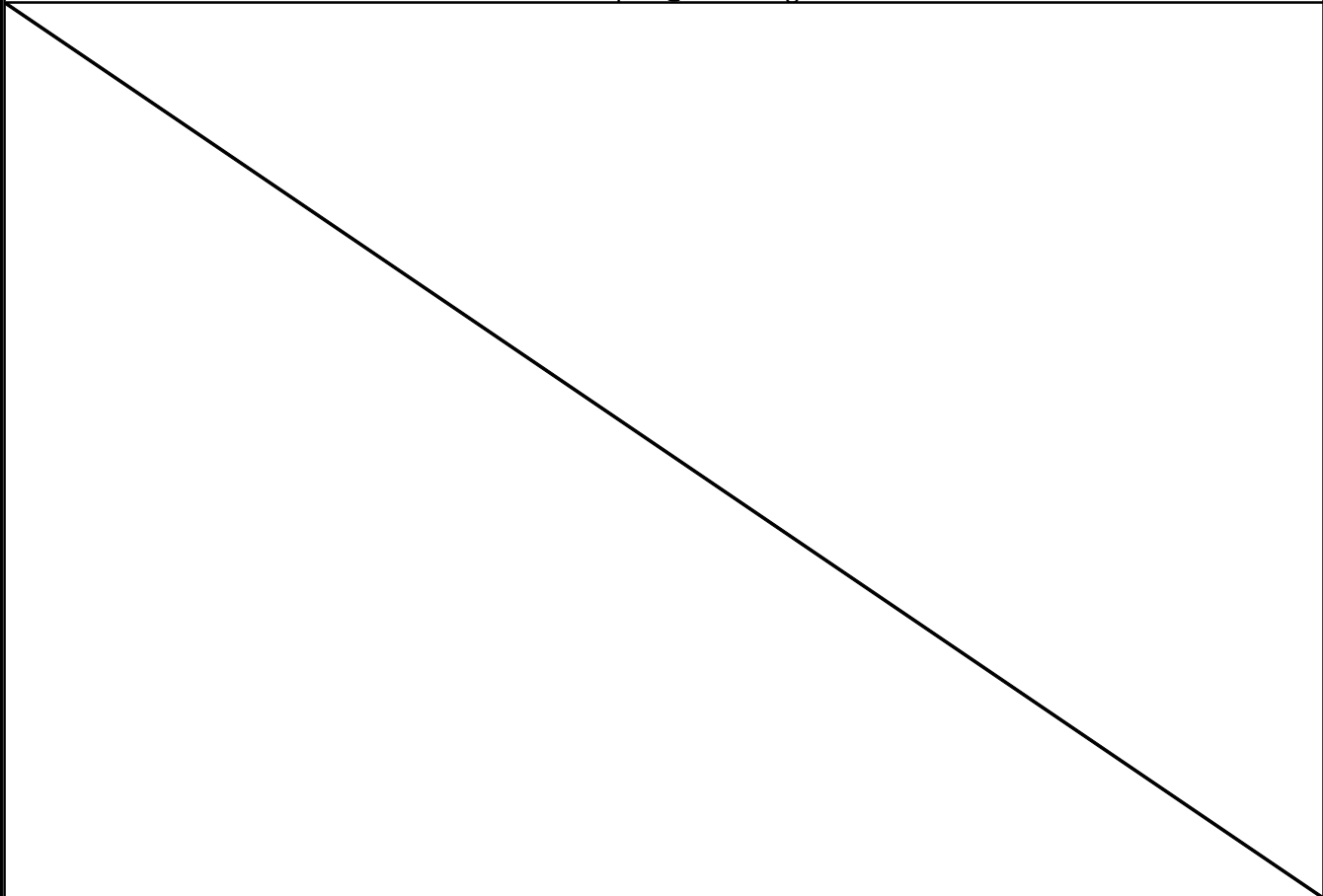
							Sample Name: BH02		Date: 8/18/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146380, -103.912789							Hole Diameter: 4"		Total Depth: 6'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
						2	SW-SM	(2-4') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
						3				
D	<168	0.0	N	BH02 @ FS15	4	4	CCHE	(4-6') light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
						5				
D	<168	0.0	N	BH02A @ FS15	6	6		(@ 6') Hand auger refusal		
Total depth @ 6 feet bgs										
										


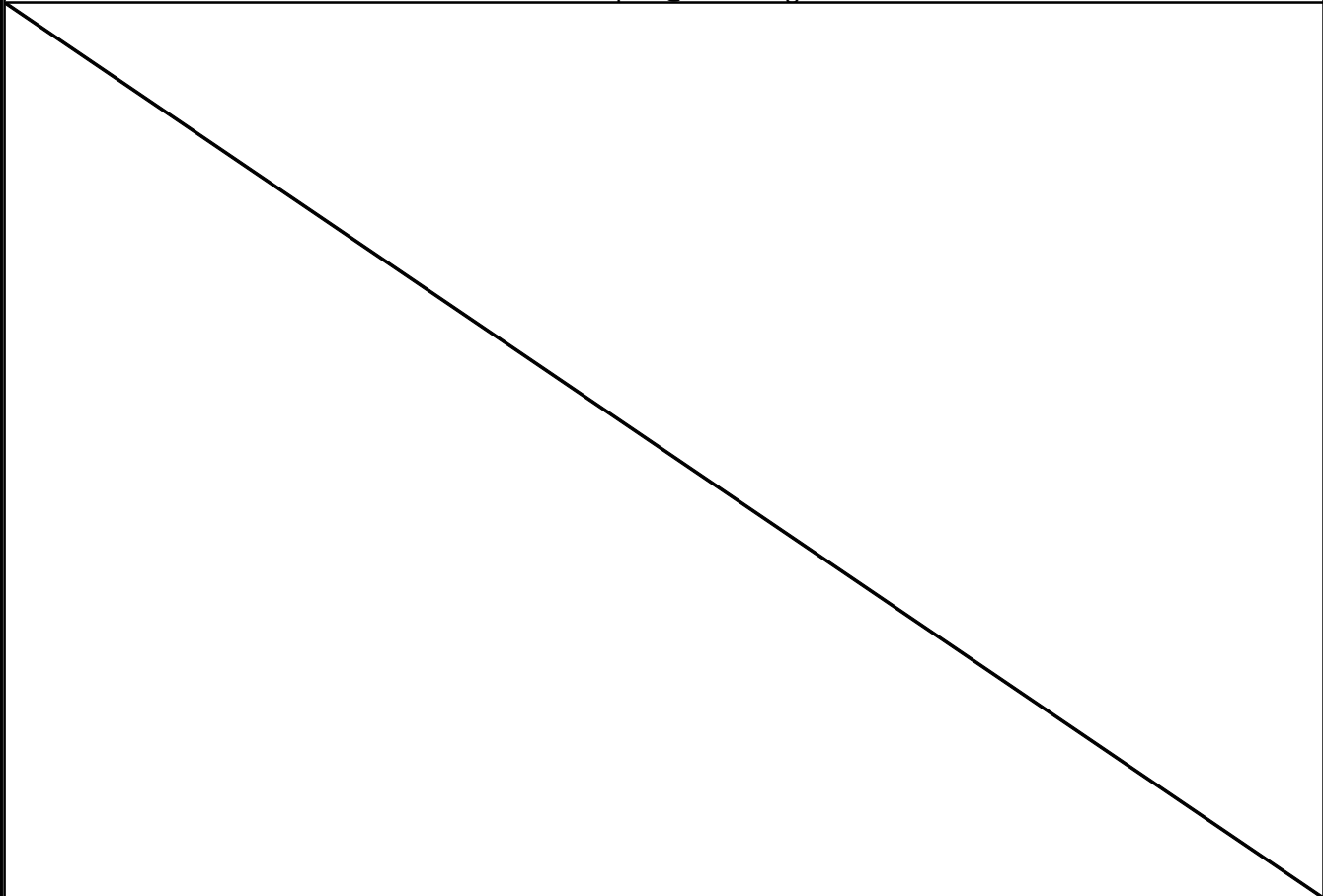
					Sample Name: BH03		Date: 8/20/25	
					Site Name: Row 4 Muy Wayno Flowline			
					Incident Number: nAPP2209039217			
					Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: JD		Method: Hand auger	
Coordinates: 32.146313, -103.912788					Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						2	SW-SM	(2-4') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor
						3		
D	<168	0.0	N	BH03	4	4	CCHE	(4-5') light brown silty sand, fine grained, small to large gravel, noncohesive, well graded
D	<168	0.0	N	BH03A	5	5		(@ 5') Hand auger refusal
Total depth @ 5 feet bgs								
<div style="position: absolute; top: 0; left: 0; bottom: 0; right: 0; border-left: 1px solid black; border-right: 1px solid black; border-bottom: 1px solid black;"></div>								


							Sample Name: BH04		Date: 8/20/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146445, -103.912748							Hole Diameter: 4"		Total Depth: 6'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
						2	SW-SM	(2-4') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
						3				
D	246.6	0.0	N	BH04	4	4	CCHE	(4-5') light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	246.6	0.0	N			5				
D	246.6	0.0	N	BH04A	6	6		(@ 6') Hand auger refusal		
Total depth @ 6 feet bgs										
										


					Sample Name: BH05		Date: 8/20/25	
					Site Name: Row 4 Muy Wayno Flowline			
					Incident Number: nAPP2209039217			
					Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: JD		Method: Hand auger	
Coordinates: 32.146477, -103.912703					Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						2	SW-SM	(2-4') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor
						3		
D	<168	0.0	N	BH05	4	4	CCHE	(4-5') light brown silty sand, fine grained, small to large gravel, noncohesive, well graded
D	<168	0.0	N	BH05A	5	5		(@ 5') Hand auger refusal
Total depth @ 5 feet bgs								
								


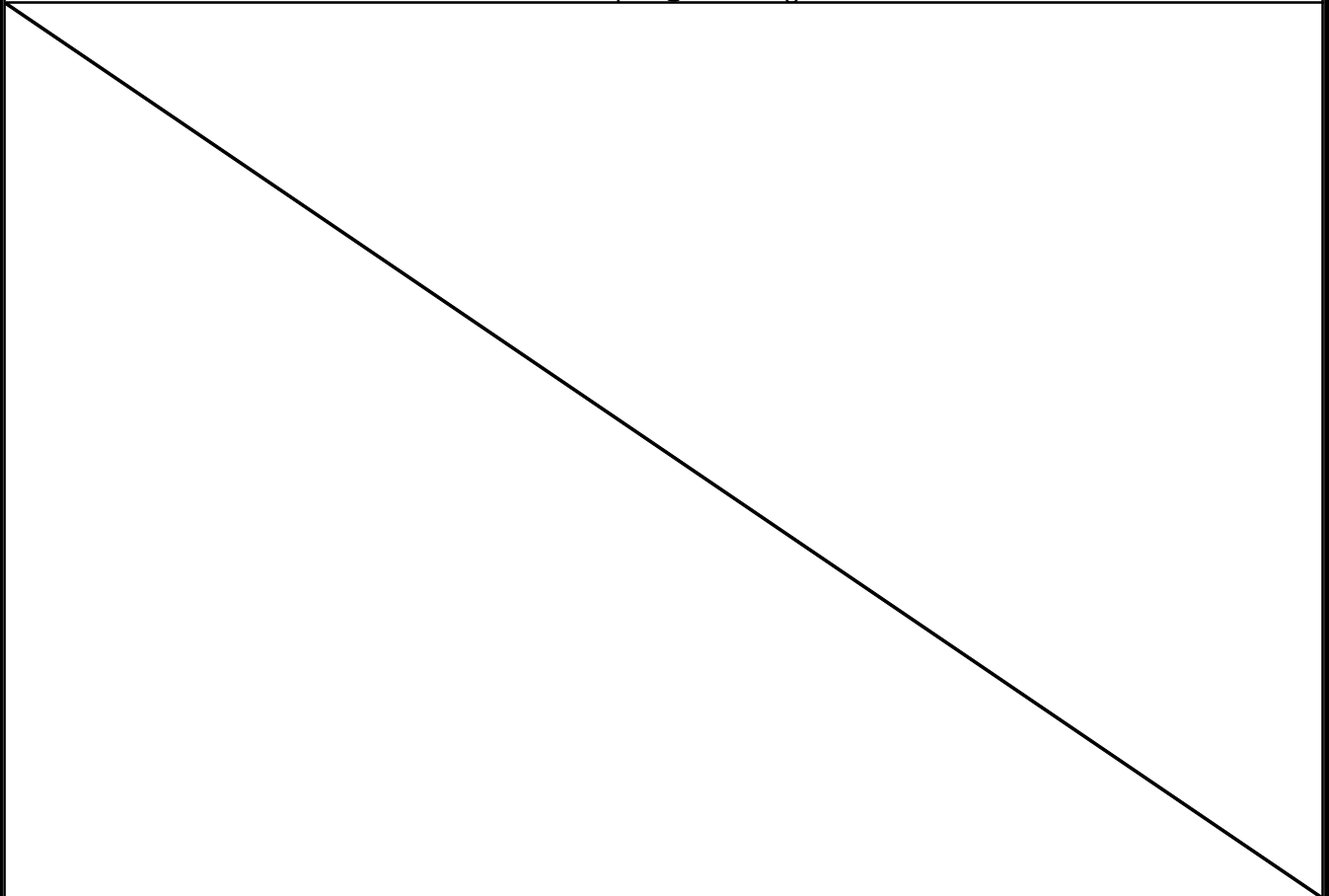
							Sample Name: BH06		Date: 8/20/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146372, -103.912714							Hole Diameter: 4"		Total Depth: 6'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N	BH06	4	2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N			3	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N			4	4			
D	<168	0.0	N			5				
D	<168	0.0	N	BH06A	6	6	(@ 6') Hand auger refusal			
Total depth @ 6 feet bgs										
										


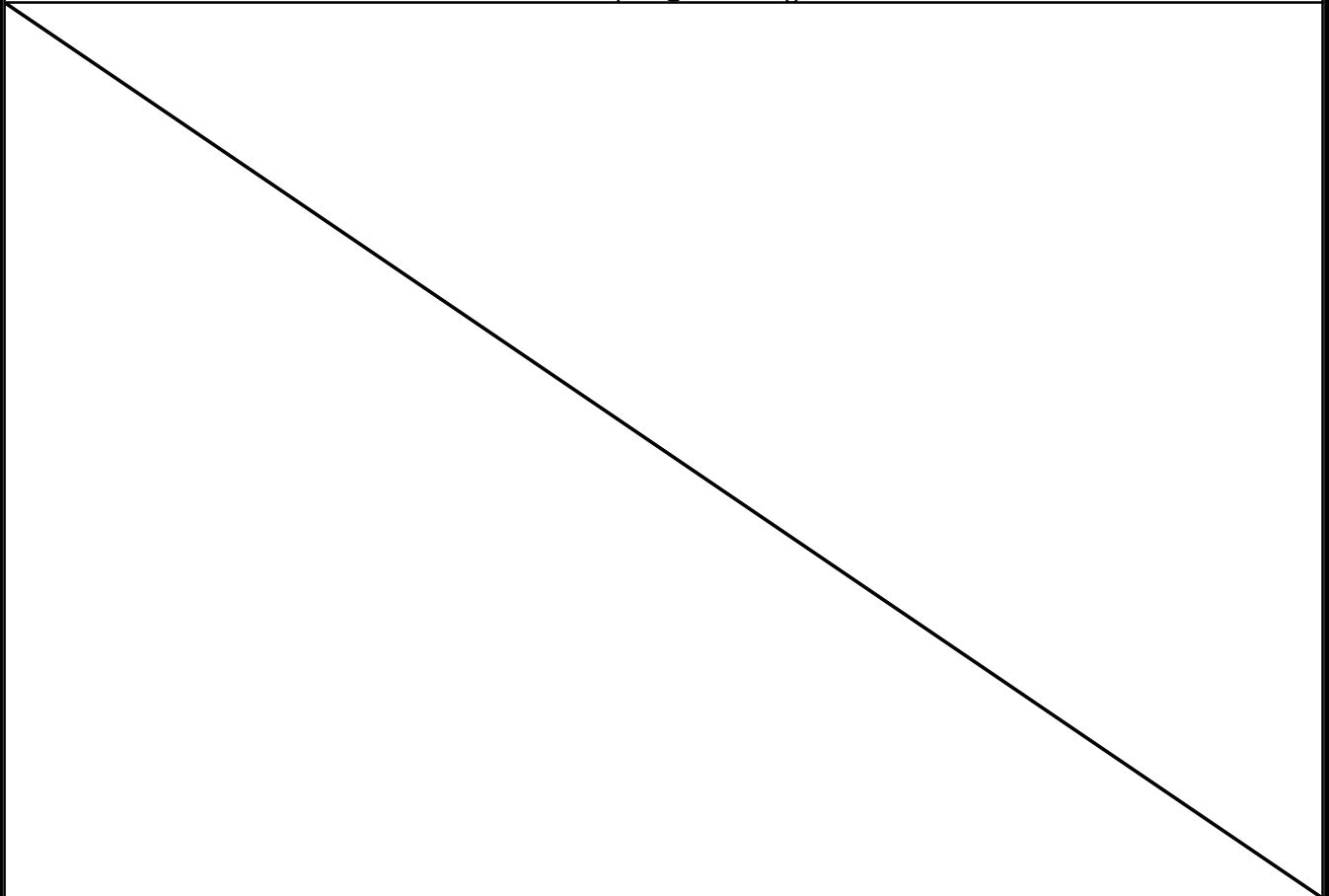
							Sample Name: BH07		Date: 8/20/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146382, -103.912662							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH07	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH07A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										


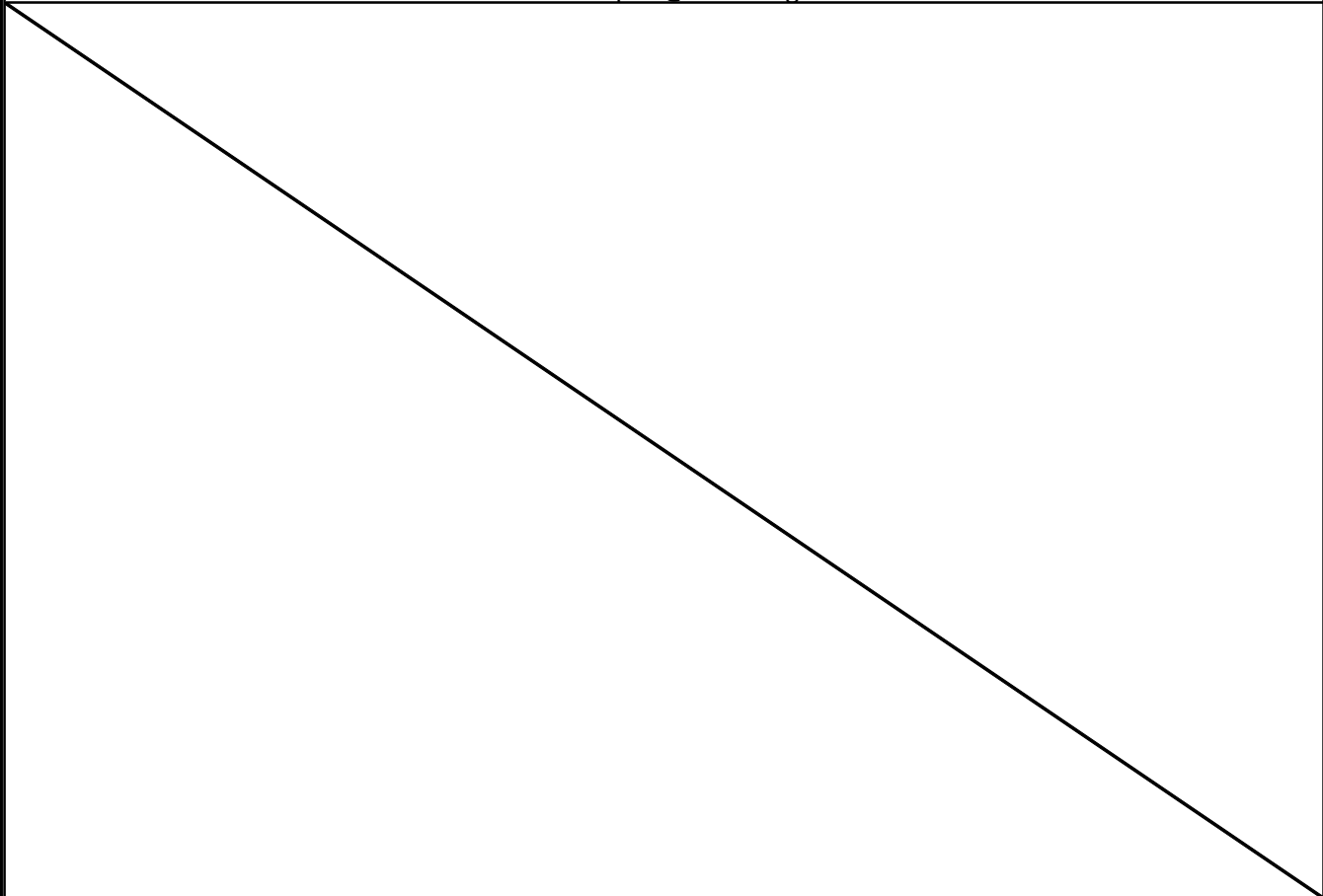
							Sample Name: BH08		Date: 8/20/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146312, -103.912714							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH08	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH08A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										


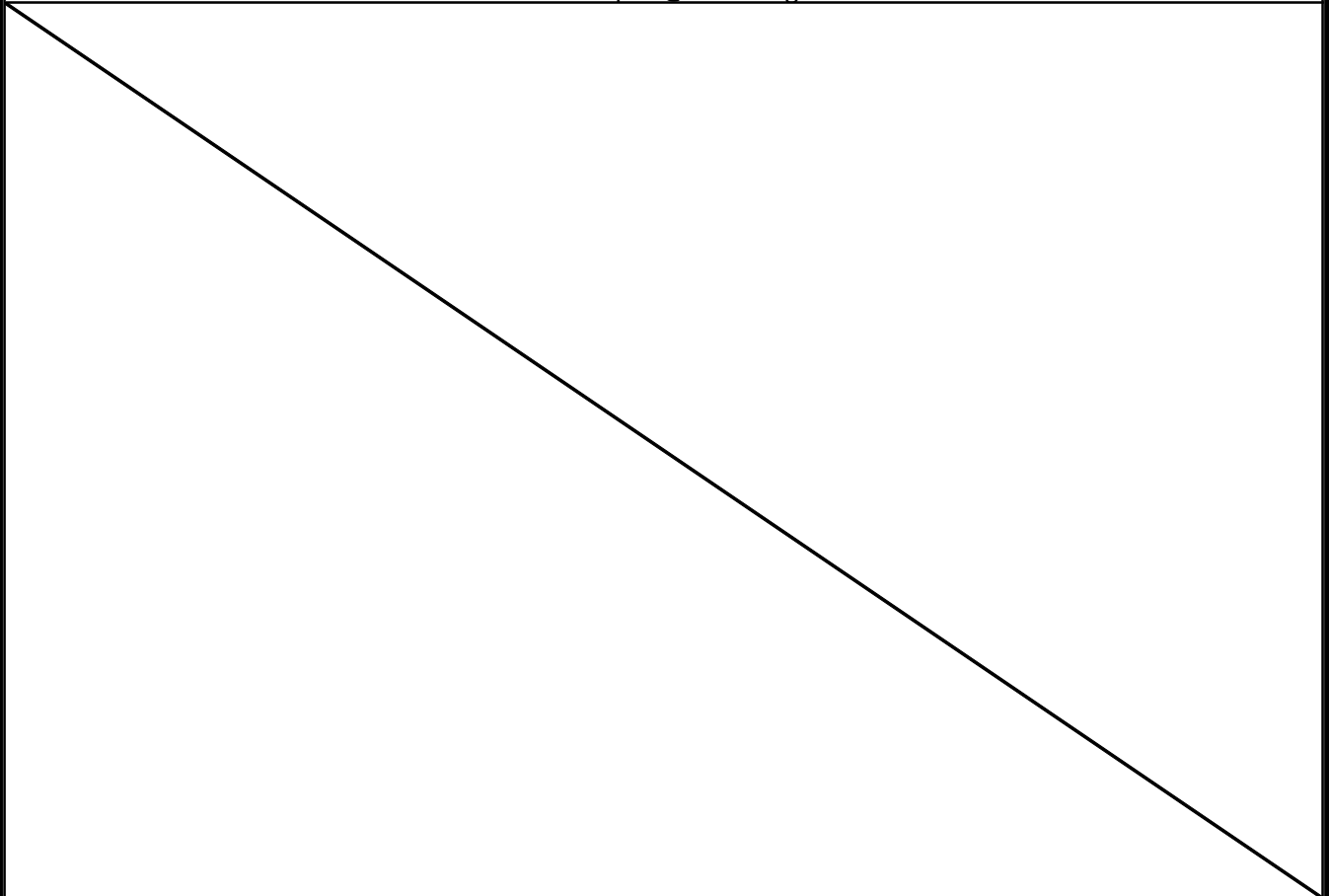
							Sample Name: BH09		Date: 8/20/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146256, -103.912791							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH09	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH09A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
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							Sample Name: BH10		Date: 8/25/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146254, -103.912794							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH10	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH10A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> </div>										

							Sample Name: BH11		Date: 8/25/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146225, -103.912804							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH11	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH11A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										

							Sample Name: BH12		Date: 8/25/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146215, -103.912721							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	287.6	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	<168	0.0	N	BH12	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	<168	0.0	N	BH12A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										

							Sample Name: BH13		Date: 8/25/25					
							Site Name: Row 4 Muy Wayno Flowline				Incident Number: nAPP2209039217			
							Job Number: 03C1558023				Logged By: JD		Method: Hand auger	
							Coordinates: 32.146250, -103.912598				Hole Diameter: 4"		Total Depth: 5'	
LITHOLOGIC / SOIL SAMPLING LOG														
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.														
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions						
D	<168	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor						
D	<168	0.0	N	BH13	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded						
D	<168	0.0	N	BH13A	5	5		(@ 5') Hand auger refusal						
Total depth @ 5 feet bgs														
														

							Sample Name: BH14		Date: 8/25/25	
							Site Name: Row 4 Muy Wayno Flowline			
							Incident Number: nAPP2209039217			
							Job Number: 03C1558023			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: JD		Method: Hand auger	
Coordinates: 32.146319, -103.912583							Hole Diameter: 4"		Total Depth: 5'	
Comments: Field screened with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with a 1:4 dilution factor of soil to distilled water and a 40% correction factor. Open excavation to 2 feet bgs.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	317.2	0.0	N			2	SW-SM	(2-3') brown silty sand, fine grained to small gravel, noncohesive, well graded, no odor		
D	515.0	0.0	N	BH13	4	4	CCHE	(3-6") light brown silty sand, fine grained, small to large gravel, noncohesive, well graded		
D	477.9	0.0	N	BH13A	5	5		(@ 5') Hand auger refusal		
Total depth @ 5 feet bgs										
										



APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 30, 2025

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/26/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 11A 2' (H253860-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68	
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	06/27/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 86.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.1 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 13A 2' (H253860-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68		
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	06/27/2025	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 84.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 14A 2' (H253860-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68	
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/27/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 87.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 15A 2' (H253860-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68	
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/27/2025	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 79.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 16A 2' (H253860-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68	
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 86.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 79.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 17A 2' (H253860-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68	
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 92.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 18A 2' (H253860-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	2.68		
Toluene*	<0.050	0.050	06/27/2025	ND	2.24	112	2.00	2.06		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.05	103	2.00	2.34		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.15	103	6.00	2.22		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 87.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 19A 2' (H253860-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 86.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 21A 2' (H253860-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 91.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 83.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 22A 2' (H253860-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 86.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 83.1 % 40.6-153

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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 27A 2' (H253860-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 75.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 69.5 % 40.6-153

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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 29A 2' (H253860-12)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	912	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 90.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 82.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 30A 2' (H253860-13)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 95.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 89.0 % 40.6-153

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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 32A 2' (H253860-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 93.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 86.9 % 40.6-153

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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/24/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: FS 33A 2' (H253860-15)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72	
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	06/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 87.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.0 % 40.6-153

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC		P.O. #:	
Project Manager: Ben Bellill		Company: XTO Energy Inc.	
Address: 3122 National Parks Hwy		Attn: Colton Brown	
City: Carlsbad	State: NM Zip: 88220	Address: 3104 E. Green St.	
Phone #: 337 257-8307	Fax #:	City: Carlsbad	
Project #: 03C1558023	Project Owner: XTO	State: NM Zip: 88220	
Project Name: Row 4 Muiy Wayno Line	Phone #:	Fax #:	
Project Location:	Sampler Name: Connor Whitman	FOR LAB USE ONLY	

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:					
HS33860	FS11A	2'	C	1							6-24-25	940			
	FS12A											945			
	FS14A											950			
	FS15A											955			
	FS16A											1000			
	FS17A											1005			
	FS18A											1010			
	FS19A											1015			
	FS21A											1020			
	FS22A											1025			

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Relinquished By: *EB* Date: *6-24-25* Time: *1340*
 Received By: *Connor Whitman*
 Verbal Result: Yes No Add'l Phone #:
 All Results are emailed. Please provide Email address:
 Bellill@ensolum.com, TMorrissey@ensolum.com, kthomason@ensolum.com
 REMARKS: Cost Center: PENDING Incident ID: nAPP2209039217
 GFCM:48605000 AFE: DD.2017.01927.CAP.CMP.01, DD.2017.01933.CAP.CMP.01

Delivered By: (Circle One) Observed Temp.: *0.1* Sample Condition: Cool Intact
 Sampler - UPS - Bus - Other: Corrected Temp.: *0.4* Yes No
 CHECKED BY: *EB*
 Turnaround Time: *11:30* Standard Bacteria (only) Sample Condition Observed Temp.: *0.1*
 Thermometer ID: *113* *Rush* Cool Intact
 Correction Factor: *0.0* *0.0* Yes No Corrected Temp.: *0.1*

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC	P.O. #:
Project Manager: Ben Beill	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Colton Brown
City: Carlsbad	Address: 3104 E. Green St.
Phone #: 337 257-8307	City: Carlsbad
Fax #: Project Owner: XTO	State: NM Zip: 88220
Project #: 03C-1558023	Phone #:
Project Name: Row 4 Mwy Wayno Line	Fax #:
Project Location:	
Sampler Name: Connor Whitman	

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
HS356D	FS21A	2	C	1								6-24-25	10:30			
	FS229A												10:45			
	FS30A												10:40			
	FS32A												10:45			
	FS55A												10:50			

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Relinquished By: *HS*

Relinquished Date: *6/26/25*

Relinquished Time: *13:10*

Received By: *Connor Whitman*

Received Date: _____

Received Time: _____

Turnaround Time: *4HP Standard*

Thermometer ID # *13103781*

Correction Factor: *0.0*

Bacteria (only) Sample Condition: Cool Intact Observed Temp. °C

Corrected Temp. °C

Delivered By: (Circle One) UPS Bus Other:

Observed Temp. °C: *10.4*

Corrected Temp. °C: *10.4*

Sample Condition: Intact Cool Yes No

Checked By: *HS*

Remarks: Cost Center: PENDING Incident ID: NAPP2209039217

AFE: DD.2017.01927 CAP CMP 01, DD.2017.01993 CAP CMP 01

GFCM: 48605000

Verbal Result: Yes No Add'l Phone #:

All Results are emailed. Please provide Email address: BBeill@ensolum.com, TMorrissey@ensolum.com, kthornason@ensolum.com

Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalhsny.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 30, 2025

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/26/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 01 SURFACE (H253861-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	215	107	200	3.29		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	196	98.2	200	3.07		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 92.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.1 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 02 SURFACE (H253861-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 68.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 69.2 % 40.6-153

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 03 SURFACE (H253861-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 79.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 04 SURFACE (H253861-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 71.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 70.3 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 05 SURFACE (H253861-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 78.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 06 SURFACE (H253861-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 70.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 72.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 07 SURFACE (H253861-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 73.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.1 % 40.6-153

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 08 SURFACE (H253861-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72	
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 67.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 66.9 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 09 SURFACE (H253861-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 77.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 77.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC	P.O. #:
Project Manager: Ben Belli	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Colton Brown
City: Carlsbad	Address: 3104 E. Green St.
State: NM	City: Carlsbad
Zip: 88220	State: NM
Phone #: 337 257-8307	Zip: 88220
Fax #:	Phone #:
Project #: 03C1558023	Project Owner: XTO
Project Name: Row 4 Mly Wayno Line	Matrix:
Project Location:	Preserv:
Sampler Name: Connor Whitman	Sampling:

Lab I.D.	Sample I.D.	Sample Depth (feet)	Matrix		DATE	TIME	BTEX	TPH	CHLORIDE
			GROUNDWATER	WASTEWATER					
<i>HS3841</i>	C501	Surface	(G)RAB OR (C)OMP.	✓	6-25-15	920	✓	✓	✓
	C502		# CONTAINERS	1		925	✓	✓	✓
	C503		OTHER:			1045	✓	✓	✓
	C504		ACID/BASE:			1050	✓	✓	✓
	C505		ICE / COOL	✓		1055	✓	✓	✓
	C506		OTHER:			1100	✓	✓	✓
	C507					1105	✓	✓	✓
	C508					1110	✓	✓	✓
	C509						✓	✓	✓

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Relinquished By: _____

Date: 6-25-15

Received By: *Connor Whitman*

Date: 6-25-15

Received By: *Ben Belli*

Delivered By: (Circle One) UPS Bus Other: _____

Observed Temp. °C: 0.12

Corrected Temp. °C: 0.14

Sample Condition: Cool Intact Yes No

CHECKED BY: (Initials) *AB*

Turnaround Time: #140 **Standard** **Rush**

Thermometer ID #: 43 **Correction Factor:** -0.5

Bacteria (only): Cool Intact Yes No

Sample Condition: Observed Temp. °C Corrected Temp. °C



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 30, 2025

BEN BELILL

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO LINE

Enclosed are the results of analyses for samples received by the laboratory on 06/26/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 10 SURFACE (H253862-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72	
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75	
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88	
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35	
Total BTEX	<0.300	0.300	06/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/27/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9	
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75	
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND					

Surrogate: 1-Chlorooctane 71.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 72.8 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 11 SURFACE (H253862-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	06/27/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 76.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 12 SURFACE (H253862-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.07	104	2.00	1.72		
Toluene*	<0.050	0.050	06/27/2025	ND	2.11	106	2.00	1.75		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.08	104	2.00	1.88		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.16	103	6.00	2.35		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	06/27/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 68.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 69.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 BEN BELILL
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2025	Sampling Date:	06/25/2025
Reported:	06/30/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO -		

Sample ID: CS 13 SURFACE (H253862-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/27/2025	ND	2.25	112	2.00	8.33		
Toluene*	<0.050	0.050	06/27/2025	ND	2.22	111	2.00	7.65		
Ethylbenzene*	<0.050	0.050	06/27/2025	ND	2.20	110	2.00	7.26		
Total Xylenes*	<0.150	0.150	06/27/2025	ND	6.54	109	6.00	7.13		
Total BTEX	<0.300	0.300	06/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/27/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/27/2025	ND	171	85.3	200	10.9		
DRO >C10-C28*	<10.0	10.0	06/27/2025	ND	181	90.4	200	9.75		
EXT DRO >C28-C36	<10.0	10.0	06/27/2025	ND						

Surrogate: 1-Chlorooctane 73.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

191

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC	P.O. #:
Project Manager: Ben Bellill	Company: XTO Energy Inc.
Address: 3122 National Parks Hwy	Attn: Colton Brown
City: Carlsbad	Address: 3104 E. Green St.
State: NM	City: Carlsbad
Zip: 88220	State: NM
Phone #: 337 257-8307	Zip: 88220
Fax #:	Phone #:
Project #: 03C1558023	Project Owner: XTO
Project Name: Row 4 Muy Wayno Line	Project Location:
Sampler Name: Connor Whitman	FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
10534603	CS10	Surface	C	1							6-25-15	1115			
	CS11											1120			
	CS12											935			
	CS13											940			

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [Signature]	Date: 6-26-25	Time: 1340	Received By: [Signature]	Date:	Time:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 0.1	Corrected Temp. °C: 0.4	Sample Condition: Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: [Signature]	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Expedited
REMARKS: Cost Center: PENDING	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	Bacteria (only): Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Incident ID: nAPP2209039217	Sample Condition: Observed Temp. °C: <input type="checkbox"/> Corrected Temp. °C: <input type="checkbox"/>



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 28, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO LINE

Enclosed are the results of analyses for samples received by the laboratory on 07/24/25 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/24/2025	Sampling Date:	07/23/2025
Reported:	07/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: CS 14 SURFACE (H254484-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/25/2025	ND	1.89	94.4	2.00	3.21	
Toluene*	<0.050	0.050	07/25/2025	ND	1.91	95.3	2.00	1.93	
Ethylbenzene*	<0.050	0.050	07/25/2025	ND	1.95	97.7	2.00	0.876	
Total Xylenes*	<0.150	0.150	07/25/2025	ND	5.93	98.8	6.00	0.851	
Total BTEX	<0.300	0.300	07/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/28/2025	ND	480	120	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/25/2025	ND	200	99.8	200	0.792	
DRO >C10-C28*	<10.0	10.0	07/25/2025	ND	185	92.3	200	1.23	
EXT DRO >C28-C36	<10.0	10.0	07/25/2025	ND					

Surrogate: 1-Chlorooctane 85.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 85.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/24/2025	Sampling Date:	07/23/2025
Reported:	07/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: CS 15 SURFACE (H254484-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/25/2025	ND	1.89	94.4	2.00	3.21		
Toluene*	<0.050	0.050	07/25/2025	ND	1.91	95.3	2.00	1.93		
Ethylbenzene*	<0.050	0.050	07/25/2025	ND	1.95	97.7	2.00	0.876		
Total Xylenes*	<0.150	0.150	07/25/2025	ND	5.93	98.8	6.00	0.851		
Total BTEX	<0.300	0.300	07/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	07/28/2025	ND	480	120	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/25/2025	ND	200	99.8	200	0.792		
DRO >C10-C28*	<10.0	10.0	07/25/2025	ND	185	92.3	200	1.23		
EXT DRO >C28-C36	<10.0	10.0	07/25/2025	ND						

Surrogate: 1-Chlorooctane 63.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 60.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/24/2025	Sampling Date:	07/23/2025
Reported:	07/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Alyssa Parras
Project Location:	XTO		

Sample ID: CS 16 SURFACE (H254484-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/25/2025	ND	1.89	94.4	2.00	3.21		
Toluene*	<0.050	0.050	07/25/2025	ND	1.91	95.3	2.00	1.93		
Ethylbenzene*	<0.050	0.050	07/25/2025	ND	1.95	97.7	2.00	0.876		
Total Xylenes*	<0.150	0.150	07/25/2025	ND	5.93	98.8	6.00	0.851		
Total BTEX	<0.300	0.300	07/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	07/25/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/25/2025	ND	200	99.8	200	0.792		
DRO >C10-C28*	<10.0	10.0	07/25/2025	ND	185	92.3	200	1.23		
EXT DRO >C28-C36	<10.0	10.0	07/25/2025	ND						

Surrogate: 1-Chlorooctane 68.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 66.5 % 40.6-153

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST	
Project Manager: Ashley Holmes		P.O. #:			
Address: 3122 National Parks Hwy		Company: XTO Energy Inc.			
City: Carlsbad	State: NM Zip: 88220	Attn: Colton Brown			
Phone #: 337 257-8307	Fax #:	Address: 3104 E. Green St.			
Project #: 03C1558023	Project Owner: XTO	City: Carlsbad			
Project Name: Row 4 Mly Wayno Line	State: NM Zip: 88220	Phone #:			
Project Location:	Sampler Name: Connor Whitman	Fax #:			

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
HES4484	1	CS14	Surface									7-21-08	1035	/	/	/
	2	CS15											1040	/	/	/
	3	CS16	↓										1045	/	/	/

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Relinquished By: <i>AS</i>	Date: _____	Received By: <i>AP</i>	Date: _____
Time: _____	Time: _____	Time: _____	Time: _____
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____	Observed Temp. °C: <i>17.2</i>	Corrected Temp. °C: <i>8.0</i>	Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Bacteria (only): <input type="checkbox"/> Yes <input type="checkbox"/> No Sample Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____
Turnaround Time: <i>RT-14405 #140</i>	Standard	<input checked="" type="checkbox"/>	Rush <input type="checkbox"/>
Thermometer ID: <i>M13</i>	Corrected Factor: <i>0.5°C</i>	48h	
REMARKS: Cost Center: _____	Incident ID: <i>nAPP2209039217</i>	All Results are emailed. Please provide Email address: _____	
Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: _____ AHolmes@ensolum.com, TMorrissey@ensolum.com, Kthomason@ensolum.com GFCM: 48605000 AFE: DD.2017.01927.CAP;CMP.01 DD.2017.01933.CAP;CMP.01			



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 21, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO LINE

Enclosed are the results of analyses for samples received by the laboratory on 08/19/25 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

- Method EPA 552.2 Haloacetic Acids (HAA-5)
- Method EPA 524.2 Total Trihalomethanes (TTHM)
- Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2025	Sampling Date:	08/18/2025
Reported:	08/21/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH01 - FS11 4' (H255132-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/19/2025	ND	1.62	80.9	2.00	3.85	
Toluene*	<0.050	0.050	08/19/2025	ND	1.70	84.8	2.00	5.32	
Ethylbenzene*	<0.050	0.050	08/19/2025	ND	1.71	85.7	2.00	5.79	
Total Xylenes*	<0.150	0.150	08/19/2025	ND	5.04	84.0	6.00	5.98	
Total BTEX	<0.300	0.300	08/19/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/20/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2025	ND	199	99.6	200	1.85	
DRO >C10-C28*	<10.0	10.0	08/19/2025	ND	194	96.9	200	1.46	
EXT DRO >C28-C36	<10.0	10.0	08/19/2025	ND					

Surrogate: 1-Chlorooctane 87.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 87.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2025	Sampling Date:	08/18/2025
Reported:	08/21/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH02 - FS15 4' (H255132-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/19/2025	ND	1.62	80.9	2.00	3.85		
Toluene*	<0.050	0.050	08/19/2025	ND	1.70	84.8	2.00	5.32		
Ethylbenzene*	<0.050	0.050	08/19/2025	ND	1.71	85.7	2.00	5.79		
Total Xylenes*	<0.150	0.150	08/19/2025	ND	5.04	84.0	6.00	5.98		
Total BTEX	<0.300	0.300	08/19/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/20/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/19/2025	ND	199	99.6	200	1.85		
DRO >C10-C28*	<10.0	10.0	08/19/2025	ND	194	96.9	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	08/19/2025	ND						

Surrogate: 1-Chlorooctane 89.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 88.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2025	Sampling Date:	08/18/2025
Reported:	08/21/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO LINE	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH02A - FS15 6' (H255132-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/19/2025	ND	1.62	80.9	2.00	3.85		
Toluene*	<0.050	0.050	08/19/2025	ND	1.70	84.8	2.00	5.32		
Ethylbenzene*	<0.050	0.050	08/19/2025	ND	1.71	85.7	2.00	5.79		
Total Xylenes*	<0.150	0.150	08/19/2025	ND	5.04	84.0	6.00	5.98		
Total BTEX	<0.300	0.300	08/19/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/20/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/19/2025	ND	199	99.6	200	1.85		
DRO >C10-C28*	<10.0	10.0	08/19/2025	ND	194	96.9	200	1.46		
EXT DRO >C28-C36	<10.0	10.0	08/19/2025	ND						

Surrogate: 1-Chlorooctane 96.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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101 East Marland, Hobbs, NM 88240
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC		P.O. #:	
Project Manager: Ashley Holmes		Company: XTO Energy, Inc	
Address: 601 N Marland Street, Suite 400		Attn: Colton Brown	
City: Midland		Address: 3104 E Greene St	
Phone #: 713-817-1947		City: Carlsbad	
Project #: 03C1558023		State: NM Zip: 88220	
Project Name: Row 4 Mly Wayno -spill		Phone #:	
Project Location: 32.1465, -103.9124		Fax #:	
Sampler Name: Jesse Dorman		DATE	
FOR LAB USE ONLY		TIME	

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV	DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:						
HAS5132	B401-FS11	4	G	1								8/16/75	1300	/	/	/	
	B402-FS15	4	G	1								8/16/75	1355	/	/	/	
	B402A-FS15	6	G	1								8/16/75	1400	/	/	/	
		50												/	/	/	

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Relinquished By:	Date: 8/19/25	Received By:	Date: 8/19/25
Relinquished By:	Time: 14:00	Received By:	Time: 14:00
Delivered By: (Circle One)	Observed Temp. °C: -0.3	Sample Condition:	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C: 0.0	Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
FORM-006 R.3.2.10/07/21		Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	Bacteria (only): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Thermometer ID #13	Cool Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Correction Factor: 0.5C	Observed Temp. °C:
		Incident Number: nAPP2209039217	Corrected Temp. °C:
		Cost Center: 1056171001	
		GFCM: 48605000	
		REMARKS: Incident Number: nAPP2209039217	
		Cost Center: 1056171001	
		GFCM: 48605000	
		Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
		All Results are emailed. Please provide email address: Aholmes@ensolum.com	
		BBell@ensolum.com, TMcMorrissey@ensolum.com, jldorman@ensolum.com	
		THiland@ensolum.com, KThomason@ensolum.com	



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO - SPILL

Enclosed are the results of analyses for samples received by the laboratory on 08/22/25 10:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH01 5' (H255249-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08	
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59	
Total BTEX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/22/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	197	98.6	200	3.89	
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	205	102	200	3.58	
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND					

Surrogate: 1-Chlorooctane 98.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 105 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH03 4' (H255249-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08	
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59	
Total BTEX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/22/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	197	98.6	200	3.89	
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	205	102	200	3.58	
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND					

Surrogate: 1-Chlorooctane 93.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH03A 5' (H255249-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND						

Surrogate: 1-Chlorooctane 95.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH04 4' (H255249-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND						

Surrogate: 1-Chlorooctane 100 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH04A 6' (H255249-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 93.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH05 4' (H255249-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08	
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59	
Total BTEX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	08/22/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89	
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58	
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND					

Surrogate: 1-Chlorooctane 93.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH05A 5' (H255249-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 93.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH06 4' (H255249-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 97.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 102 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH06A 6' (H255249-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08	
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59	
Total BTEX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89	
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58	
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND					

Surrogate: 1-Chlorooctane 98.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH07 4' (H255249-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 95.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH07A 5' (H255249-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.86		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 98.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH08 4' (H255249-12)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/22/2025	ND	432	108	400	3.86		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 92.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH08A 5' (H255249-13)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.86		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 94.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH09 4' (H255249-14)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08		
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47		
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18		
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59		
Total BTEX	<0.300	0.300	08/25/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	08/22/2025	ND	432	108	400	3.86		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2025	ND	197	98.6	200	3.89		
DRO >C10-C28*	<10.0	10.0	08/23/2025	ND	205	102	200	3.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2025	ND						

Surrogate: 1-Chlorooctane 92.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/22/2025	Sampling Date:	08/20/2025
Reported:	08/26/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH09A 5' (H255249-15)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/25/2025	ND	1.55	77.4	2.00	1.08	
Toluene*	<0.050	0.050	08/25/2025	ND	1.70	84.9	2.00	2.47	
Ethylbenzene*	<0.050	0.050	08/25/2025	ND	1.77	88.7	2.00	4.18	
Total Xylenes*	<0.150	0.150	08/25/2025	ND	5.25	87.6	6.00	4.59	
Total BTEX	<0.300	0.300	08/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/22/2025	ND	432	108	400	3.86	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	199	99.4	200	3.93	
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	186	93.1	200	2.26	
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND					

Surrogate: 1-Chlorooctane 91.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 91.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Ashley Holmes
 Address: 601 N Marland Street, Suite 400
 City: Midland State: TX Zip: 79701
 Phone #: 713-817-1947 Fax #: [blank]
 Project #: 03C1558023 Project Owner: XTO Energy
 Project Name: Row 4 Mwy Wayno -spill
 Project Location: 32.1465, -103.9124
 Sampler Name: Jesse Dorman
 P.O. #: [blank] Company: XTO Energy, Inc
 Attn: Colton Brown
 Address: 3104 E Greene St
 City: Carlsbad State: NM Zip: 88220
 Phone #: [blank] Fax #: [blank]

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
H55249	Bho1	5	G	1								8/20/05	8:38			
	Bho3	4											8:53			
	Bho3A	5											8:53			
	Bho4	4											9:05			
	Bho4A	6											9:17			
	Bho5	4											9:30			
	Bho5A	5											9:35			
	Bho6	4											10:25			
	Bho6A	8											10:35			
	Bho7	4											10:50			

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Relinquished By: [Signature]
 Date: 8-22-05
 Received By: [Signature]
 Date: 10/05
 Turnaround Time: Standard
 Bacteria (only) Sample Condition: Cool Intact

Delivered By: (Circle One) Observed Temp.: °C 0.1
 Sampler - UPS - Bus - Other: Corrected Temp.: °C 0.4
 Checked By: [Signature]
 Verbal Result: Yes No
 Add'l Phone #: [blank]



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2052

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST	
Project Manager: Ashley Holmes	P.O. #:	Company: XTO Energy, Inc			
Address: 601 N Marientfeld Street, Suite 400	City: Midland	State: TX	Zip: 79701	Attn: Colton Brown	
Phone #: 713-817-1947	Fax #:	Address: 3104 E Greene St		City: Carlsbad	
Project #: 03C1558023	Project Owner: XTO Energy	State: NM	Zip: 88220	Phone #:	
Project Name: Row 4 Mly Wayne -spill	Project Location: 32.1465, -103.9124	Fax #:			
Sampler Name: Jesse Dorman					

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV		SAMPLING		TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE			
ABSS049	Bk07A	5	G	1													
	Bk08	4	G	1													
	Bk08/A	5	G	1													
	Bk09	4	G	1													
	Bk09A	5	G	1													
		SD															

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Relinquished By: _____

Received By: Jessie Dorman

Date: 1/05/25

Time: _____

Delivered By: (Circle One) UPS

Observed Temp. °C: 0.1

Corrected Temp. °C: 0.4

Sample Condition: Cool Intact

Checked By: J.D.

Turnaround Time: 15 Standard Rush

Thermometer ID: 413

Correction Factor: 0.5

Bacteria (only) Sample Condition: Cool Intact

Observed Temp. °C: _____

Corrected Temp. °C: _____

FORM 006 R 3.2 1/10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 28, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO - SPILL

Enclosed are the results of analyses for samples received by the laboratory on 08/26/25 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH10 4' (H255300-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 96.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.7 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH10 A 5' (H255300-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 96.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH11 4' (H255300-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22	
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03	
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39	
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77	
Total BTEX	<0.300	0.300	08/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628	
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80	
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND					

Surrogate: 1-Chlorooctane 93.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.3 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH11 A 5' (H255300-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 90.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 91.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH12 4' (H255300-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22	
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03	
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39	
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77	
Total BTEX	<0.300	0.300	08/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628	
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80	
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND					

Surrogate: 1-Chlorooctane 94.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH12 A 5' (H255300-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 97.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.2 % 40.6-153

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH13 4' (H255300-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22	
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03	
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39	
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77	
Total BTEX	<0.300	0.300	08/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628	
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80	
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND					

Surrogate: 1-Chlorooctane 104 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH13 A 5' (H255300-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 98.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.1 % 40.6-153

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH14 4' (H255300-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22	
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03	
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39	
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77	
Total BTEX	<0.300	0.300	08/27/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	08/27/2025	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628	
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80	
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND					

Surrogate: 1-Chlorooctane 101 % 44.4-145

Surrogate: 1-Chlorooctadecane 101 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/26/2025	Sampling Date:	08/25/2025
Reported:	08/28/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUJ WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.1465-103.9124		

Sample ID: BH14 A 5' (H255300-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/27/2025	ND	1.95	97.5	2.00	3.22		
Toluene*	<0.050	0.050	08/27/2025	ND	2.02	101	2.00	4.03		
Ethylbenzene*	<0.050	0.050	08/27/2025	ND	2.03	101	2.00	4.39		
Total Xylenes*	<0.150	0.150	08/27/2025	ND	6.02	100	6.00	4.77		
Total BTEX	<0.300	0.300	08/27/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	08/27/2025	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/27/2025	ND	207	103	200	0.0628		
DRO >C10-C28*	<10.0	10.0	08/27/2025	ND	208	104	200	1.80		
EXT DRO >C28-C36	<10.0	10.0	08/27/2025	ND						

Surrogate: 1-Chlorooctane 105 % 44.4-145

Surrogate: 1-Chlorooctadecane 105 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC Project Manager: Ashley Holmes Address: 601 N Marientfield Street, Suite 400 City: Midland State: TX Zip: 79701 Phone #: 713-817-1947 Fax #: _____ Project #: 03C1558023 Project Owner: XTO Energy Project Name: Row 4 Mwy Wayno -spill Project Location: 32.1465, -103.9124 Sampler Name: Jesse Dorman		P.O. #: _____ Company: XTO Energy, Inc Attn: Colton Brown Address: 3104 E Greene St City: Carlsbad State: NM Zip: 88220 Phone #: _____ Fax #: _____												
BILL TO		ANALYSIS REQUEST												
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX						DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H255300	BH10	4	61							8/25/25	917			
	Bh10A	5									920			
	Bh11	4									940			
	Bh11A	3									992			
	Bh12	4									1023			
	Bh12A	5									1030			
	Bh13	4									1045			
	Bh13A	5									1050			
	Bh14	5									1057			
	Bh14A	5									1100			

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Relinquished By: _____ Date: 8-26-25 Time: 1400	Received By: <i>Jessie Dorman</i> Date: _____ Time: _____
Delivered By: (Circle One) Sampler - UPS - Bus - Other: _____	Observed Temp. °C: -0.1 Corrected Temp. °C: 0.2 Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Checked By: (Initials) <i>JSD</i>
Turnaround Time: <i>440</i> Standard Rush <input type="checkbox"/>	Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C: _____

Verbal Result: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: *Andrimes@ensolum.com*
Bbell@ensolum.com, *TMorrissey@ensolum.com*, *Jdorman@ensolum.com*
THillard@ensolum.com, *KThomason@ensolum.com*

REMARKS: Incident Number: *nAPP2209039217*
 Cost Center: *1056171001*
 GFCM: *48605000*

FORM-006 R.3.2 10/01/21
 † Cardinal cannot accept verbal changes. Please email changes to *celley.keene@cardinallabsnm.com*
48605000



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 09, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO - SPILL

Enclosed are the results of analyses for samples received by the laboratory on 09/05/25 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/05/2025	Sampling Date:	09/05/2025
Reported:	09/09/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.1465-103.9124		

Sample ID: FS 29 4' (H255554-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/05/2025	ND	1.84	91.9	2.00	5.27		
Toluene*	<0.050	0.050	09/05/2025	ND	1.96	97.9	2.00	1.50		
Ethylbenzene*	<0.050	0.050	09/05/2025	ND	1.98	99.0	2.00	0.829		
Total Xylenes*	<0.150	0.150	09/05/2025	ND	5.87	97.9	6.00	0.880		
Total BTEX	<0.300	0.300	09/05/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/05/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/05/2025	ND	202	101	200	1.09		
DRO >C10-C28*	<10.0	10.0	09/05/2025	ND	180	90.2	200	0.185		
EXT DRO >C28-C36	<10.0	10.0	09/05/2025	ND						

Surrogate: 1-Chlorooctane 71.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 72.8 % 40.6-153

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Ashley Holmes
 Address: 601 N Marlenfeld Street, Suite 400
 City: Midland State: TX Zip: 79701
 Phone #: 713-817-1947 Fax #: [blank]
 Project #: 03C1558023 Project Owner: XTO Energy
 Project Name: Row 4 Muly Wayno -spill
 Project Location: 32.1465, -103.9124
 Sampler Name: Jesse Dorman
 P.O. #: [blank] Company: XTO Energy, Inc
 Attn: Colton Brown
 Address: 3104 E Greene St
 City: Carlsbad State: NM Zip: 88220
 Phone #: [blank] Fax #: [blank]

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H05554	F529	4'	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: [Signature]
 Date: 9.5.25
 Time: 1:55
 Received By: [Signature]
 Date: [blank]
 Time: [blank]

Delivered By: (Circle One)
 Sampler - UPS - Bus - Other: [blank]
 Observed Temp. °C: 2.1
 Corrected Temp. °C: 2.4
 Sample Condition: Cool Intact Yes No
 CHECKED BY: [Signature]
 Turnaround Time: 140 to 3:30
 Thermometer ID: 444
 Correction Factor: 0.5C
 Bacteria (only) Sample Condition: Standard Rush
 Cool Intact Yes No
 Corrected Temp. °C: [blank]

FORM-006 R.3.2 10/07/21
 † Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 09, 2025

ASHLEY HOLMES

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: ROW 4 MUY WAYNO - SPILL

Enclosed are the results of analyses for samples received by the laboratory on 09/05/25 12:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 ASHLEY HOLMES
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/05/2025	Sampling Date:	09/05/2025
Reported:	09/09/2025	Sampling Type:	Soil
Project Name:	ROW 4 MUY WAYNO - SPILL	Sampling Condition:	Cool & Intact
Project Number:	03C1558023	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.1465-103.9124		

Sample ID: SW 06 2-4' (H255555-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/05/2025	ND	1.84	91.9	2.00	5.27	
Toluene*	<0.050	0.050	09/05/2025	ND	1.96	97.9	2.00	1.50	
Ethylbenzene*	<0.050	0.050	09/05/2025	ND	1.98	99.0	2.00	0.829	
Total Xylenes*	<0.150	0.150	09/05/2025	ND	5.87	97.9	6.00	0.880	
Total BTEX	<0.300	0.300	09/05/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	09/05/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/05/2025	ND	202	101	200	1.09	
DRO >C10-C28*	<10.0	10.0	09/05/2025	ND	180	90.2	200	0.185	
EXT DRO >C28-C36	<10.0	10.0	09/05/2025	ND					

Surrogate: 1-Chlorooctane 83.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 82.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolum, LLC
 Project Manager: Ashley Holmes
 Address: 601 N Marientfeld Street, Suite 400
 City: Midland State: TX Zip: 79701
 Phone #: 713-817-1947 Fax #: _____
 Project #: 03C1558023 Project Owner: XTO Energy
 Project Name: Row 4 MUY Wayno -spill
 Project Location: 32.1465, -103.9124
 P.O. #: _____ Company: XTO Energy, Inc
 Attn: Colton Brown
 Address: 3104 E Greene St
 City: Carlsbad State: NM Zip: 88220
 Phone #: _____ Fax #: _____

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
1455555	SWD6	2-4'	G	1								9/5/25	1055			

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Relinquished By: _____ Date: 9/5/25
 Received By: *Stearns*
 Date: _____ Time: _____
 Turnaround Time: *Standard* *Rush*
 Bacteria (only) Sample Condition
 Cool Intact Observed Temp. °C _____
 Corrected Temp. °C _____

Delivered By: (Circle One) Observed Temp. °C *2.1*
 Corrected Temp. °C *2.4*
 Checked By: *SA*
 Verbal Result: Yes No Add'l Phone #: _____
 All Results are emailed. Please provide Email address: *Andrines@ensolum.com*
 REMARKS: Incident Number: nAPP2209039217
 Cost Center: 1056171001
 GF.CM: 48605000

FORM 006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinalabnm.com



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701

Generated 12/16/2022 1:23:04 PM

JOB DESCRIPTION

ROW 4 MUY WAYNO LINE
 SDG NUMBER 03E1558023

JOB NUMBER

890-3590-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/16/2022 1:23:04 PM

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

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Laboratory Job ID: 890-3590-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
 Project/Site: ROW 4 MUJ WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

Job ID: 890-3590-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-3590-1**

Receipt

The sample was received on 12/6/2022 4:20 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 3.6°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41899 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41386 and analytical batch 880-41561 was outside the upper control limits.

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

HPLC/IC

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

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

Client Sample ID: FS01

Lab Sample ID: 890-3590-1

Date Collected: 12/05/22 10:40

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U F1 F2	0.00199		mg/Kg		12/15/22 10:18	12/16/22 11:15	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/15/22 10:18	12/16/22 11:15	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/15/22 10:18	12/16/22 11:15	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/15/22 10:18	12/16/22 11:15	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/15/22 10:18	12/16/22 11:15	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/15/22 10:18	12/16/22 11:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130	12/15/22 10:18	12/16/22 11:15	1
1,4-Difluorobenzene (Surr)	93		70 - 130	12/15/22 10:18	12/16/22 11:15	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/16/22 14:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	70.0		50.0		mg/Kg			12/13/22 09:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	70.0		50.0		mg/Kg		12/08/22 15:23	12/12/22 16:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 15:23	12/12/22 16:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 15:23	12/12/22 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				12/08/22 15:23	12/12/22 16:27	1
o-Terphenyl	112		70 - 130				12/08/22 15:23	12/12/22 16:27	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	348		5.02		mg/Kg			12/14/22 10:50	1

Surrogate Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
890-3590-1	FS01	106	93
890-3590-1 MS	FS01	105	73
890-3590-1 MSD	FS01	100	90
LCS 880-41899/1-A	Lab Control Sample	99	94
LCSD 880-41899/2-A	Lab Control Sample Dup	106	89
MB 880-41899/5-A	Method Blank	102	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	OTPH1
		(70-130)	(70-130)
890-3585-A-1-C MS	Matrix Spike	104	102
890-3585-A-1-D MSD	Matrix Spike Duplicate	109	105
890-3590-1	FS01	100	112
LCS 880-41386/2-A	Lab Control Sample	103	107
LCSD 880-41386/3-A	Lab Control Sample Dup	111	118
MB 880-41386/1-A	Method Blank	136 S1+	197 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41899/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41899

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 10:18	12/16/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 10:18	12/16/22 10:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/15/22 10:18	12/16/22 10:53	1
1,4-Difluorobenzene (Surr)	87		70 - 130	12/15/22 10:18	12/16/22 10:53	1

Lab Sample ID: LCS 880-41899/1-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1057		mg/Kg		106	70 - 130
Toluene	0.100	0.1002		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.09641		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.2086		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1033		mg/Kg		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-41899/2-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41899

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1010		mg/Kg		101	70 - 130	5	35
Toluene	0.100	0.09757		mg/Kg		98	70 - 130	3	35
Ethylbenzene	0.100	0.09721		mg/Kg		97	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.2124		mg/Kg		106	70 - 130	2	35
o-Xylene	0.100	0.1060		mg/Kg		106	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Lab Sample ID: 890-3590-1 MS
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 41899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1 F2	0.101	0.04468	F1	mg/Kg		44	70 - 130
Toluene	<0.00199	U	0.101	0.08001		mg/Kg		79	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

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

Lab Sample ID: 890-3590-1 MS
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 41899

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.101	0.09723		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.202	0.1697		mg/Kg		84	70 - 130
o-Xylene	<0.00199	U	0.101	0.08477		mg/Kg		84	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	73		70 - 130

Lab Sample ID: 890-3590-1 MSD
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 41899

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1 F2	0.0996	0.08835	F2	mg/Kg		89	70 - 130	66	35
Toluene	<0.00199	U	0.0996	0.08545		mg/Kg		86	70 - 130	7	35
Ethylbenzene	<0.00199	U	0.0996	0.08497		mg/Kg		85	70 - 130	13	35
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1852		mg/Kg		93	70 - 130	9	35
o-Xylene	<0.00199	U	0.0996	0.09154		mg/Kg		92	70 - 130	8	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

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

Lab Sample ID: MB 880-41386/1-A
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41386

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 15:23	12/12/22 08:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 15:23	12/12/22 08:40	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 15:23	12/12/22 08:40	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	136	S1+	70 - 130	12/08/22 15:23	12/12/22 08:40	1
o-Terphenyl	197	S1+	70 - 130	12/08/22 15:23	12/12/22 08:40	1

Lab Sample ID: LCS 880-41386/2-A
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	948.1		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1070		mg/Kg		107	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

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

Lab Sample ID: LCS 880-41386/2-A
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41386

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	103		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: LCSD 880-41386/3-A
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41386

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	1111		mg/Kg		111	70 - 130	16	20	
Diesel Range Organics (Over C10-C28)	1000	1206		mg/Kg		121	70 - 130	12	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	111		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: 890-3585-A-1-C MS
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41386

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	888.1		mg/Kg		86	70 - 130	
Diesel Range Organics (Over C10-C28)	<50.0	U	999	867.8		mg/Kg		87	70 - 130	

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

Lab Sample ID: 890-3585-A-1-D MSD
Matrix: Solid
Analysis Batch: 41561

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41386

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	951.5		mg/Kg		92	70 - 130	7	20	
Diesel Range Organics (Over C10-C28)	<50.0	U	997	895.5		mg/Kg		90	70 - 130	3	20	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	109		70 - 130
o-Terphenyl	105		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41366/1-A
 Matrix: Solid
 Analysis Batch: 41730

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/14/22 07:42	1

Lab Sample ID: LCS 880-41366/2-A
 Matrix: Solid
 Analysis Batch: 41730

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	245.5		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-41366/3-A
 Matrix: Solid
 Analysis Batch: 41730

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	248.9		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-3585-A-8-B MS
 Matrix: Solid
 Analysis Batch: 41730

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	246		248	499.6		mg/Kg		102	90 - 110

Lab Sample ID: 890-3585-A-8-D MSD
 Matrix: Solid
 Analysis Batch: 41730

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	246		248	496.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	5035	
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41899/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41899/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3590-1 MS	FS01	Total/NA	Solid	5035	
890-3590-1 MSD	FS01	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	8021B	41899
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
LCS 880-41899/1-A	Lab Control Sample	Total/NA	Solid	8021B	41899
LCSD 880-41899/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41899
890-3590-1 MS	FS01	Total/NA	Solid	8021B	41899
890-3590-1 MSD	FS01	Total/NA	Solid	8021B	41899

Analysis Batch: 42040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-41386/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41386/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3585-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3585-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	8015B NM	41386
MB 880-41386/1-A	Method Blank	Total/NA	Solid	8015B NM	41386
LCS 880-41386/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41386
LCSD 880-41386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41386
890-3585-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41386
890-3585-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41386

Analysis Batch: 41707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Soluble	Solid	DI Leach	
MB 880-41366/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

HPLC/IC (Continued)

Leach Batch: 41366 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3590-1	FS01	Soluble	Solid	300.0	41366
MB 880-41366/1-A	Method Blank	Soluble	Solid	300.0	41366
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	300.0	41366
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41366
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	300.0	41366
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41366

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Lab Chronicle

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

Client Sample ID: FS01

Lab Sample ID: 890-3590-1

Date Collected: 12/05/22 10:40

Matrix: Solid

Date Received: 12/06/22 16:20

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	41899	12/15/22 10:18	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/16/22 11:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42040	12/16/22 14:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			41707	12/13/22 09:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41386	12/08/22 15:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41561	12/12/22 16:27	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	41366	12/08/22 12:15	KS	EET MID
Soluble	Analysis	300.0		1			41730	12/14/22 10:50	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

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

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Method Summary

Client: Ensolum
 Project/Site: ROW 4 MUJ WAYNO LINE

Job ID: 890-3590-1
 SDG: 03E1558023

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: ROW 4 MUY WAYNO LINE

Job ID: 890-3590-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3590-1	FS01	Solid	12/05/22 10:40	12/06/22 16:20	2

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Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

ANALYSIS REQUEST

Preservative Codes



890-3590 Chain of Custody

None: NO DI Water: H₂O

Cool: Cool MeOH: Me

HCL: HC HNO₃: HN

H₂SO₄: H₂ NaOH: Na

H₃PO₄: HP

NaHSO₄: NABIS

Na₂S₂O₅: NaSO₃

Zn Acetate+NaOH: Zn

NaOH+Ascorbic Acid: SAPP

Project Name:	Row 4 Muy Wayno Line	Turn Around		Pres. Code	Parameters	Sample Comments
		<input checked="" type="checkbox"/> Routine	<input type="checkbox"/> Rush			
Project Number:	03E1558023 <th>Due Date:</th> <td></td> <td></td> <td></td> <td></td>	Due Date:				
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm				
PO #:		Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
SAMPLE RECEIPT	Temp Blank:	Thermometer ID:	Correction Factor:	Temperature Reading:	Corrected Temperature:	
Samples Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Total Containers:						
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont
FS01	S	12/5/22	10:40	2'	Com 1	1
<i>cmllt</i>						

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti 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 TI 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
<i>cmllt</i>	<i>Avaraha Stoj</i>	12/13/22 1:00			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3590-1

SDG Number: 03E1558023

Login Number: 3590

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3590-1

SDG Number: 03E1558023

Login Number: 3590

List Source: Eurofins Midland

List Number: 2

List Creation: 12/08/22 11:44 AM

Creator: Rodriguez, Leticia

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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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701

Generated 12/15/2022 11:28:23 AM

JOB DESCRIPTION

ROW 4 MUY WAYNO LINE
 SDG NUMBER 03E1558023

JOB NUMBER

890-3591-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/15/2022 11:28:23 AM

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

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Laboratory Job ID: 890-3591-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: ROW 4 MUJ WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

Job ID: 890-3591-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-3591-1**

Receipt

The samples were received on 12/6/2022 4:20 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41768 and analytical batch 880-41782 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41382 and analytical batch 880-41511 was outside the upper control limits.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

Client Sample ID: FS02

Lab Sample ID: 890-3591-1

Date Collected: 12/01/22 10:00

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 22:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 22:04	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/13/22 13:22	12/14/22 22:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 22:04	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/13/22 13:22	12/14/22 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130	12/13/22 13:22	12/14/22 22:04	1
1,4-Difluorobenzene (Surr)	98		70 - 130	12/13/22 13:22	12/14/22 22:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/15/22 11:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/12/22 10:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	12/08/22 14:16	12/11/22 02:23	1
o-Terphenyl	108		70 - 130	12/08/22 14:16	12/11/22 02:23	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		5.00		mg/Kg			12/14/22 10:57	1

Client Sample ID: FS03

Lab Sample ID: 890-3591-2

Date Collected: 12/01/22 10:10

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:38	12/14/22 23:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:38	12/14/22 23:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:38	12/14/22 23:43	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/13/22 15:38	12/14/22 23:43	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:38	12/14/22 23:43	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/13/22 15:38	12/14/22 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	12/13/22 15:38	12/14/22 23:43	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Client Sample ID: FS03

Lab Sample ID: 890-3591-2

Date Collected: 12/01/22 10:10

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 3

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	74		70 - 130	12/13/22 15:38	12/14/22 23:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			12/15/22 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/12/22 10:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/11/22 02:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	12/08/22 14:16	12/11/22 02:43	1
o-Terphenyl	114		70 - 130	12/08/22 14:16	12/11/22 02:43	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31.9		4.97		mg/Kg			12/14/22 11:04	1

Client Sample ID: FS04

Lab Sample ID: 890-3591-3

Date Collected: 12/01/22 10:15

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/13/22 15:38	12/15/22 00:04	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/13/22 15:38	12/15/22 00:04	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/13/22 15:38	12/15/22 00:04	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/13/22 15:38	12/15/22 00:04	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/13/22 15:38	12/15/22 00:04	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/13/22 15:38	12/15/22 00:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	12/13/22 15:38	12/15/22 00:04	1
1,4-Difluorobenzene (Surr)	82		70 - 130	12/13/22 15:38	12/15/22 00:04	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/15/22 11:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/12/22 10:03	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Client Sample ID: FS04

Lab Sample ID: 890-3591-3

Date Collected: 12/01/22 10:15

Matrix: Solid

Date Received: 12/06/22 16:20

Sample Depth: 3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:04	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 14:16	12/11/22 03:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130	12/08/22 14:16	12/11/22 03:04	1
o-Terphenyl	111		70 - 130	12/08/22 14:16	12/11/22 03:04	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	165		4.99		mg/Kg			12/14/22 11:12	1

Surrogate Summary

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-22249-A-1-F MS	Matrix Spike	106	96
880-22249-A-1-G MSD	Matrix Spike Duplicate	99	93
880-22647-A-1-A MS	Matrix Spike	126	108
880-22647-A-1-B MSD	Matrix Spike Duplicate	112	120
890-3591-1	FS02	116	98
890-3591-2	FS03	96	74
890-3591-3	FS04	103	82
LCS 880-41731/1-A	Lab Control Sample	93	90
LCS 880-41768/1-A	Lab Control Sample	111	121
LCSD 880-41731/2-A	Lab Control Sample Dup	97	94
LCSD 880-41768/2-A	Lab Control Sample Dup	107	118
MB 880-41731/5-A	Method Blank	102	91
MB 880-41757/5-A	Method Blank	89	103
MB 880-41768/5-A	Method Blank	87	96

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)
880-22328-A-21-C MS	Matrix Spike	99	95
880-22328-A-21-D MSD	Matrix Spike Duplicate	109	103
890-3591-1	FS02	98	108
890-3591-2	FS03	101	114
890-3591-3	FS04	100	111
LCS 880-41382/2-A	Lab Control Sample	99	106
LCSD 880-41382/3-A	Lab Control Sample Dup	93	101
MB 880-41382/1-A	Method Blank	121	178 S1+

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41731/5-A
 Matrix: Solid
 Analysis Batch: 41784

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 41731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 10:59	12/14/22 11:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 10:59	12/14/22 11:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 10:59	12/14/22 11:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/22 10:59	12/14/22 11:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 10:59	12/14/22 11:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/22 10:59	12/14/22 11:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	12/13/22 10:59	12/14/22 11:03	1
1,4-Difluorobenzene (Surr)	91		70 - 130	12/13/22 10:59	12/14/22 11:03	1

Lab Sample ID: LCS 880-41731/1-A
 Matrix: Solid
 Analysis Batch: 41784

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 41731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09982		mg/Kg		100	70 - 130
Toluene	0.100	0.09417		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.08987		mg/Kg		90	70 - 130
m-Xylene & p-Xylene	0.200	0.1951		mg/Kg		98	70 - 130
o-Xylene	0.100	0.09613		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-41731/2-A
 Matrix: Solid
 Analysis Batch: 41784

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 41731

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1034		mg/Kg		103	70 - 130	3	35
Toluene	0.100	0.09587		mg/Kg		96	70 - 130	2	35
Ethylbenzene	0.100	0.09272		mg/Kg		93	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.2006		mg/Kg		100	70 - 130	3	35
o-Xylene	0.100	0.09897		mg/Kg		99	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-22249-A-1-F MS
 Matrix: Solid
 Analysis Batch: 41784

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 41731

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.07547		mg/Kg		75	70 - 130
Toluene	<0.00200	U	0.100	0.07112		mg/Kg		71	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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

Lab Sample ID: 880-22249-A-1-F MS

Client Sample ID: Matrix Spike

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41784

Prep Batch: 41731

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00200	U	0.100	0.07125		mg/Kg		71	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.201	0.1577		mg/Kg		79	70 - 130
o-Xylene	<0.00200	U	0.100	0.08037		mg/Kg		80	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: 880-22249-A-1-G MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41784

Prep Batch: 41731

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00200	U	0.0990	0.09035		mg/Kg		91	70 - 130	18	35
Toluene	<0.00200	U	0.0990	0.08427		mg/Kg		85	70 - 130	17	35
Ethylbenzene	<0.00200	U	0.0990	0.08013		mg/Kg		81	70 - 130	12	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1746		mg/Kg		88	70 - 130	10	35
o-Xylene	<0.00200	U	0.0990	0.08823		mg/Kg		89	70 - 130	9	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: MB 880-41757/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41782

Prep Batch: 41757

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 11:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 11:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 11:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/22 13:22	12/14/22 11:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:22	12/14/22 11:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/22 13:22	12/14/22 11:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	89		70 - 130	12/13/22 13:22	12/14/22 11:04	1
1,4-Difluorobenzene (Surr)	103		70 - 130	12/13/22 13:22	12/14/22 11:04	1

Lab Sample ID: MB 880-41768/5-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41782

Prep Batch: 41768

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:38	12/14/22 22:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:38	12/14/22 22:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:38	12/14/22 22:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/22 15:38	12/14/22 22:00	1

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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

Lab Sample ID: MB 880-41768/5-A
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41768

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:38	12/14/22 22:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/22 15:38	12/14/22 22:00	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	87		70 - 130	12/13/22 15:38	12/14/22 22:00	1
1,4-Difluorobenzene (Surr)	96		70 - 130	12/13/22 15:38	12/14/22 22:00	1

Lab Sample ID: LCS 880-41768/1-A
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41768

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzene	0.100	0.1223		mg/Kg		122	70 - 130
Toluene	0.100	0.1041		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1083		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	0.200	0.2252		mg/Kg		113	70 - 130
o-Xylene	0.100	0.1123		mg/Kg		112	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	121		70 - 130

Lab Sample ID: LCSD 880-41768/2-A
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41768

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Benzene	0.100	0.1193		mg/Kg		119	70 - 130	2	35
Toluene	0.100	0.1035		mg/Kg		103	70 - 130	1	35
Ethylbenzene	0.100	0.1066		mg/Kg		107	70 - 130	2	35
m-Xylene & p-Xylene	0.200	0.2222		mg/Kg		111	70 - 130	1	35
o-Xylene	0.100	0.1107		mg/Kg		111	70 - 130	1	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	118		70 - 130

Lab Sample ID: 880-22647-A-1-A MS
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41768

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Benzene	<0.00202	U	0.100	0.06989		mg/Kg		70	70 - 130
Toluene	<0.00202	U F1	0.100	0.06293	F1	mg/Kg		63	70 - 130
Ethylbenzene	<0.00202	U	0.100	0.07079		mg/Kg		71	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.201	0.1392	F1	mg/Kg		69	70 - 130
o-Xylene	<0.00202	U	0.100	0.07002		mg/Kg		70	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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

Lab Sample ID: 880-22647-A-1-A MS
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41768

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	126		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 880-22647-A-1-B MSD
Matrix: Solid
Analysis Batch: 41782

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41768

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.09456		mg/Kg		96	70 - 130	30	35
Toluene	<0.00202	U F1	0.0990	0.07476		mg/Kg		76	70 - 130	17	35
Ethylbenzene	<0.00202	U	0.0990	0.07353		mg/Kg		74	70 - 130	4	35
m-Xylene & p-Xylene	<0.00403	U F1	0.198	0.1464		mg/Kg		74	70 - 130	5	35
o-Xylene	<0.00202	U	0.0990	0.07219		mg/Kg		73	70 - 130	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	120		70 - 130

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

Lab Sample ID: MB 880-41382/1-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/10/22 20:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/10/22 20:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 14:16	12/10/22 20:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	121		70 - 130	12/08/22 14:16	12/10/22 20:16	1
o-Terphenyl	178	S1+	70 - 130	12/08/22 14:16	12/10/22 20:16	1

Lab Sample ID: LCS 880-41382/2-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	883.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	977.6		mg/Kg		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	106		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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

Lab Sample ID: LCSD 880-41382/3-A
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41382

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit	
Gasoline Range Organics (GRO)-C6-C10	1000	853.2		mg/Kg		85	70 - 130	4	20	
Diesel Range Organics (Over C10-C28)	1000	945.4		mg/Kg		95	70 - 130	3	20	
		LCSD	LCSD							
Surrogate		%Recovery	Qualifier	Limits						
1-Chlorooctane		93		70 - 130						
o-Terphenyl		101		70 - 130						

Lab Sample ID: 880-22328-A-21-C MS
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	880.6		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	891.9		mg/Kg		89	70 - 130		
		MS	MS								
Surrogate		%Recovery	Qualifier	Limits							
1-Chlorooctane		99		70 - 130							
o-Terphenyl		95		70 - 130							

Lab Sample ID: 880-22328-A-21-D MSD
Matrix: Solid
Analysis Batch: 41511

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	986.1		mg/Kg		96	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	940.5		mg/Kg		94	70 - 130	5	20
		MSD	MSD								
Surrogate		%Recovery	Qualifier	Limits							
1-Chlorooctane		109		70 - 130							
o-Terphenyl		103		70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41366/1-A
Matrix: Solid
Analysis Batch: 41730

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/14/22 07:42	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-41366/2-A
 Matrix: Solid
 Analysis Batch: 41730

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	245.5		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-41366/3-A
 Matrix: Solid
 Analysis Batch: 41730

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	248.9		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-3585-A-8-B MS
 Matrix: Solid
 Analysis Batch: 41730

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	246		248	499.6		mg/Kg		102	90 - 110

Lab Sample ID: 890-3585-A-8-D MSD
 Matrix: Solid
 Analysis Batch: 41730

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	246		248	496.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

GC VOA

Prep Batch: 41731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	5035	
MB 880-41731/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41731/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41731/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22249-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-22249-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 41757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41757/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-2	FS03	Total/NA	Solid	5035	
890-3591-3	FS04	Total/NA	Solid	5035	
MB 880-41768/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41768/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41768/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22647-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-22647-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-2	FS03	Total/NA	Solid	8021B	41768
890-3591-3	FS04	Total/NA	Solid	8021B	41768
MB 880-41757/5-A	Method Blank	Total/NA	Solid	8021B	41757
MB 880-41768/5-A	Method Blank	Total/NA	Solid	8021B	41768
LCS 880-41768/1-A	Lab Control Sample	Total/NA	Solid	8021B	41768
LCSD 880-41768/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41768
880-22647-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	41768
880-22647-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41768

Analysis Batch: 41784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	8021B	41731
MB 880-41731/5-A	Method Blank	Total/NA	Solid	8021B	41731
LCS 880-41731/1-A	Lab Control Sample	Total/NA	Solid	8021B	41731
LCSD 880-41731/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41731
880-22249-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	41731
880-22249-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41731

Analysis Batch: 41913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	Total BTEX	
890-3591-2	FS03	Total/NA	Solid	Total BTEX	
890-3591-3	FS04	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

GC Semi VOA

Prep Batch: 41382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	8015NM Prep	
890-3591-2	FS03	Total/NA	Solid	8015NM Prep	
890-3591-3	FS04	Total/NA	Solid	8015NM Prep	
MB 880-41382/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41382/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22328-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22328-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	8015B NM	41382
890-3591-2	FS03	Total/NA	Solid	8015B NM	41382
890-3591-3	FS04	Total/NA	Solid	8015B NM	41382
MB 880-41382/1-A	Method Blank	Total/NA	Solid	8015B NM	41382
LCS 880-41382/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41382
LCSD 880-41382/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41382
880-22328-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41382
880-22328-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41382

Analysis Batch: 41604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Total/NA	Solid	8015 NM	
890-3591-2	FS03	Total/NA	Solid	8015 NM	
890-3591-3	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Soluble	Solid	DI Leach	
890-3591-2	FS03	Soluble	Solid	DI Leach	
890-3591-3	FS04	Soluble	Solid	DI Leach	
MB 880-41366/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3591-1	FS02	Soluble	Solid	300.0	41366
890-3591-2	FS03	Soluble	Solid	300.0	41366
890-3591-3	FS04	Soluble	Solid	300.0	41366
MB 880-41366/1-A	Method Blank	Soluble	Solid	300.0	41366
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	300.0	41366
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41366
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	300.0	41366
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41366

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Lab Chronicle

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
 SDG: 03E1558023

Client Sample ID: FS02

Lab Sample ID: 890-3591-1

Date Collected: 12/01/22 10:00

Matrix: Solid

Date Received: 12/06/22 16:20

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	41731	12/13/22 13:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41784	12/14/22 22:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			41913	12/15/22 11:43	SM	EET MID
Total/NA	Analysis	8015 NM		1			41604	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 02:23	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41366	12/08/22 12:15	KS	EET MID
Soluble	Analysis	300.0		1			41730	12/14/22 10:57	CH	EET MID

Client Sample ID: FS03

Lab Sample ID: 890-3591-2

Date Collected: 12/01/22 10:10

Matrix: Solid

Date Received: 12/06/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	41768	12/13/22 15:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41782	12/14/22 23:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			41913	12/15/22 11:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			41604	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 02:43	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41366	12/08/22 12:15	KS	EET MID
Soluble	Analysis	300.0		1			41730	12/14/22 11:04	CH	EET MID

Client Sample ID: FS04

Lab Sample ID: 890-3591-3

Date Collected: 12/01/22 10:15

Matrix: Solid

Date Received: 12/06/22 16:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	41768	12/13/22 15:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41782	12/15/22 00:04	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			41913	12/15/22 11:38	SM	EET MID
Total/NA	Analysis	8015 NM		1			41604	12/12/22 10:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41382	12/08/22 14:16	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41511	12/11/22 03:04	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41366	12/08/22 12:15	KS	EET MID
Soluble	Analysis	300.0		1			41730	12/14/22 11:12	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: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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

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Method Summary

Client: Ensolum
Project/Site: ROW 4 MUJ WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

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: ROW 4 MUY WAYNO LINE

Job ID: 890-3591-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3591-1	FS02	Solid	12/01/22 10:00	12/06/22 16:20	3
890-3591-2	FS03	Solid	12/01/22 10:10	12/06/22 16:20	3
890-3591-3	FS04	Solid	12/01/22 10:15	12/06/22 16:20	3

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Environment Testing
Xerco

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

Chain of Custody

Work Order No: _____

www.xerco.com Page _____ of _____

Project Manager:	Kalel Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

ANALYSIS REQUEST

Preservative Codes



890-3591 Chain of Custody

None: NO DI Water: H₂O
Cool: Cool MeOH: Me
HCL: HC HNO₃: HN
H₂SO₄: H₂ NaOH: Na
H₃PO₄: HP
NAHSO₄: NABIS
Na₂S₂O₅: NASO₅
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Project Name:	Row 4 Muly Wayno Line	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558023	Due Date:			
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:					
PO #:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters
FS02	S	12/1/2022	10:00	3'	Comp	1	CHLORIDES (EPA: 300.0)
FS03	S	12/1/2022	10:10	3'	Comp	1	TPH (8015)
FS04	S	12/1/2022	10:15	3'	Comp	1	BTEX (8021)

Sample Comments

Incident ID: NAPP2209039217
Cost Center:
AFE:
DD 2017 01827 CAP CAMP 01 DD 2017 01933 CAP CAMP 01

Total 200.7 / 6010 200.8 / 6020: BRCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: BRCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Note: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xerco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xerco 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 Xerco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xerco, 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
<i>[Signature]</i>	<i>[Signature]</i>	12/1/2022 10:00	<i>[Signature]</i>	<i>[Signature]</i>	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3591-1

SDG Number: 03E1558023

Login Number: 3591

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3591-1

SDG Number: 03E1558023

Login Number: 3591

List Source: Eurofins Midland

List Number: 2

List Creation: 12/08/22 11:44 AM

Creator: Rodriguez, Leticia

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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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 12/12/2022 3:33:13 PM

JOB DESCRIPTION

Row 4 Muy Wayno Line
SDG NUMBER 03E1558023

JOB NUMBER

890-3602-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/12/2022 3:33:13 PM

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

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-3602-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

Job ID: 890-3602-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-3602-1**

Receipt

The sample was received on 12/7/2022 3:45 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 5.4°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SW01 (890-3602-1).

GC VOA

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-41393 and analytical batch 880-41420 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41491 and analytical batch 880-41523 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41523/5), (LCS 880-41491/2-A) and (LCSD 880-41491/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The method blank for preparation batch 880-41491 and analytical batch 880-41523 contained Gasoline Range Organics (GRO)-C6-C10 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: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

Client Sample ID: SW01

Lab Sample ID: 890-3602-1

Date Collected: 12/05/22 12:20

Matrix: Solid

Date Received: 12/07/22 15:45

Sample Depth: 0-3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		12/08/22 15:57	12/09/22 17:19	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/08/22 15:57	12/09/22 17:19	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/08/22 15:57	12/09/22 17:19	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/08/22 15:57	12/09/22 17:19	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		12/08/22 15:57	12/09/22 17:19	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/08/22 15:57	12/09/22 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	12/08/22 15:57	12/09/22 17:19	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/08/22 15:57	12/09/22 17:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			12/12/22 15:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/12/22 12:52	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/09/22 14:59	12/11/22 15:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/09/22 14:59	12/11/22 15:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/09/22 14:59	12/11/22 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	12/09/22 14:59	12/11/22 15:33	1
o-Terphenyl	105		70 - 130	12/09/22 14:59	12/11/22 15:33	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	851		5.04	mg/Kg			12/10/22 10:58	1

Surrogate Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-22501-A-2-B MS	Matrix Spike	130	97
880-22501-A-2-C MSD	Matrix Spike Duplicate	119	110
890-3602-1	SW01	105	100
LCS 880-41393/1-A	Lab Control Sample	101	111
LCSD 880-41393/2-A	Lab Control Sample Dup	104	112
MB 880-41393/5-A	Method Blank	86	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
880-22554-A-1-B MS	Matrix Spike	104	83
880-22554-A-1-C MSD	Matrix Spike Duplicate	109	86
890-3602-1	SW01	106	105
LCS 880-41491/2-A	Lab Control Sample	147 S1+	136 S1+
LCSD 880-41491/3-A	Lab Control Sample Dup	144 S1+	136 S1+
MB 880-41491/1-A	Method Blank	113	151 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41393/5-A
Matrix: Solid
Analysis Batch: 41420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41393

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/08/22 15:57	12/09/22 11:50	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/08/22 15:57	12/09/22 11:50	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/08/22 15:57	12/09/22 11:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/08/22 15:57	12/09/22 11:50	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/08/22 15:57	12/09/22 11:50	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/08/22 15:57	12/09/22 11:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	12/08/22 15:57	12/09/22 11:50	1
1,4-Difluorobenzene (Surr)	100		70 - 130	12/08/22 15:57	12/09/22 11:50	1

Lab Sample ID: LCS 880-41393/1-A
Matrix: Solid
Analysis Batch: 41420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41393

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1221		mg/Kg		122	70 - 130
Toluene	0.100	0.1089		mg/Kg		109	70 - 130
Ethylbenzene	0.100	0.1108		mg/Kg		111	70 - 130
m-Xylene & p-Xylene	0.200	0.2201		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1084		mg/Kg		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: LCSD 880-41393/2-A
Matrix: Solid
Analysis Batch: 41420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41393

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.1225		mg/Kg		122	70 - 130	0	35
Toluene	0.100	0.1087		mg/Kg		109	70 - 130	0	35
Ethylbenzene	0.100	0.1061		mg/Kg		106	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.2133		mg/Kg		107	70 - 130	3	35
o-Xylene	0.100	0.1043		mg/Kg		104	70 - 130	4	35

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

Lab Sample ID: 880-22501-A-2-B MS
Matrix: Solid
Analysis Batch: 41420

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41393

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.06886	F1	mg/Kg		69	70 - 130
Toluene	<0.00200	U	0.0996	0.08028		mg/Kg		80	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

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

Lab Sample ID: 880-22501-A-2-B MS

Client Sample ID: Matrix Spike

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41420

Prep Batch: 41393

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	<0.00200	U	0.0996	0.09737		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.199	0.1845		mg/Kg		92	70 - 130
o-Xylene	<0.00200	U	0.0996	0.09102		mg/Kg		90	70 - 130

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

Lab Sample ID: 880-22501-A-2-C MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41420

Prep Batch: 41393

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Benzene	<0.00200	U F1	0.100	0.08057		mg/Kg		80	70 - 130	16	35
Toluene	<0.00200	U	0.100	0.07763		mg/Kg		77	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.100	0.08214		mg/Kg		82	70 - 130	17	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1646		mg/Kg		82	70 - 130	11	35
o-Xylene	<0.00200	U	0.100	0.08694		mg/Kg		85	70 - 130	5	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	119		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

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

Lab Sample ID: MB 880-41491/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41523

Prep Batch: 41491

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/09/22 14:59	12/11/22 09:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/09/22 14:59	12/11/22 09:16	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/09/22 14:59	12/11/22 09:16	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	113		70 - 130	12/09/22 14:59	12/11/22 09:16	1
o-Terphenyl	151	S1+	70 - 130	12/09/22 14:59	12/11/22 09:16	1

Lab Sample ID: LCS 880-41491/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 41523

Prep Batch: 41491

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	869.9		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1019		mg/Kg		102	70 - 130

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QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

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

Lab Sample ID: LCS 880-41491/2-A
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41491

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	147	S1+	70 - 130
o-Terphenyl	136	S1+	70 - 130

Lab Sample ID: LCSD 880-41491/3-A
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41491

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	857.3		mg/Kg		86	70 - 130	1	20	
Diesel Range Organics (Over C10-C28)	1000	969.5		mg/Kg		97	70 - 130	5	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	144	S1+	70 - 130
o-Terphenyl	136	S1+	70 - 130

Lab Sample ID: 880-22554-A-1-B MS
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	824.4		mg/Kg		81	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	997	943.6		mg/Kg		93	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	104		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: 880-22554-A-1-C MSD
Matrix: Solid
Analysis Batch: 41523

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1006		mg/Kg		99	70 - 130	20	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	988.5		mg/Kg		97	70 - 130	5	20	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	109		70 - 130
o-Terphenyl	86		70 - 130

QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41433/1-A
 Matrix: Solid
 Analysis Batch: 41532

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/10/22 08:45	1

Lab Sample ID: LCS 880-41433/2-A
 Matrix: Solid
 Analysis Batch: 41532

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.9		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-41433/3-A
 Matrix: Solid
 Analysis Batch: 41532

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	261.5		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-3598-A-6-B MS
 Matrix: Solid
 Analysis Batch: 41532

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	334		249	580.4		mg/Kg		99	90 - 110

Lab Sample ID: 890-3598-A-6-C MSD
 Matrix: Solid
 Analysis Batch: 41532

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	334		249	581.0		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

GC VOA

Prep Batch: 41393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	5035	
MB 880-41393/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41393/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41393/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22501-A-2-B MS	Matrix Spike	Total/NA	Solid	5035	
880-22501-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	8021B	41393
MB 880-41393/5-A	Method Blank	Total/NA	Solid	8021B	41393
LCS 880-41393/1-A	Lab Control Sample	Total/NA	Solid	8021B	41393
LCSD 880-41393/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41393
880-22501-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	41393
880-22501-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41393

Analysis Batch: 41669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	8015NM Prep	
MB 880-41491/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41491/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41491/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22554-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22554-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	8015B NM	41491
MB 880-41491/1-A	Method Blank	Total/NA	Solid	8015B NM	41491
LCS 880-41491/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41491
LCSD 880-41491/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41491
880-22554-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	41491
880-22554-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41491

Analysis Batch: 41639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Soluble	Solid	DI Leach	
MB 880-41433/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41433/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41433/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

HPLC/IC (Continued)

Leach Batch: 41433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3598-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3598-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3602-1	SW01	Soluble	Solid	300.0	41433
MB 880-41433/1-A	Method Blank	Soluble	Solid	300.0	41433
LCS 880-41433/2-A	Lab Control Sample	Soluble	Solid	300.0	41433
LCSD 880-41433/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41433
890-3598-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	41433
890-3598-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41433

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Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

Client Sample ID: SW01

Lab Sample ID: 890-3602-1

Date Collected: 12/05/22 12:20

Matrix: Solid

Date Received: 12/07/22 15:45

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	41393	12/08/22 15:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41420	12/09/22 17:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			41669	12/12/22 15:56	SM	EET MID
Total/NA	Analysis	8015 NM		1			41639	12/12/22 12:52	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41491	12/09/22 14:59	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41523	12/11/22 15:33	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	41433	12/09/22 12:00	KS	EET MID
Soluble	Analysis	300.0		1			41532	12/10/22 10:58	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

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

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Method Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3602-1
 SDG: 03E1558023

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: Row 4 Muy Wayno Line

Job ID: 890-3602-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3602-1	SW01	Solid	12/05/22 12:20	12/07/22 15:45	0-3'

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Environment Testing
Xenco

Chain of Custody


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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Kalei Jennings	Bill to: (if different)	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2945	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Row 4 Muly Wayno Line	Turn Around	<input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558023	Due Date:	2-day		
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:		Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
PO #:		Samples Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	11M-007
SAMPLE RECEIPT		Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Correction Factor:	-0.2
		Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Temperature Reading:	5.4
		Total Containers:		Corrected Temperature:	5.2
ANALYSIS REQUEST					
Parameters					
CHLORIDES (EPA: 300.0)					
TPH (8015)					
BTEX (8021)					
 890-3602 Chain of Custody					
Preservative Codes					
None: NO	DI Water: H ₂ O	Cool: Cool	MeOH: Me	H ₂ SO ₄ : H ₂	NaOH: Na
H ₂ PO ₄ : HP	NaHSO ₄ : NABIS	Na ₂ S ₂ O ₈ : NASO ₈	Zn Acetate+NaOH: Zn	NaOH+Ascorbic Acid: SAPP	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW01	S	12/5/22	12:20	0-3'	C	1			
<i>EW</i>									

Total 200.7 / 6010 200.8 / 6020: BRCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti 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: Signatures 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
<i>CAH</i>	<i>Aracela Stief</i>	12/15/22			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3602-1

SDG Number: 03E1558023

Login Number: 3602

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3602-1

SDG Number: 03E1558023

Login Number: 3602

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 12/09/22 11:39 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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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/27/2022 8:58:03 AM

JOB DESCRIPTION

Row 4 Muy Wayno Line
SDG NUMBER 03E1558023

JOB NUMBER

890-3621-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220



Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/27/2022 8:58:03 AM

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

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-3621-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

Job ID: 890-3621-1

Laboratory: Eurofins Carlsbad**Narrative****Job Narrative
890-3621-1****Receipt**

The sample was received on 12/12/2022 12:41 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 1.0°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SW02 (890-3621-1).

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: Surrogate recovery for the following samples were outside control limits: (880-22702-A-66-A), (880-22702-A-66-B MS) and (880-22702-A-66-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The method blank for preparation batch 880-41834 and analytical batch 880-41874 contained Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28) 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.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41834 and analytical batch 880-41874 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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 880-41755 and analytical batch 880-42176 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: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

Client Sample ID: SW02

Lab Sample ID: 890-3621-1

Date Collected: 12/09/22 13:30

Matrix: Solid

Date Received: 12/12/22 12:41

Sample Depth: 0-2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:05	12/23/22 16:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:05	12/23/22 16:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:05	12/23/22 16:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/22/22 09:05	12/23/22 16:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/22/22 09:05	12/23/22 16:59	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/22/22 09:05	12/23/22 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	12/22/22 09:05	12/23/22 16:59	1
1,4-Difluorobenzene (Surr)	81		70 - 130	12/22/22 09:05	12/23/22 16:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/26/22 16:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/16/22 11:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 13:21	12/15/22 18:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/22 13:21	12/15/22 18:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/22 13:21	12/15/22 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	129		70 - 130	12/15/22 13:21	12/15/22 18:13	1
o-Terphenyl	117		70 - 130	12/15/22 13:21	12/15/22 18:13	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.0	F1	5.00	mg/Kg			12/20/22 11:19	1

Surrogate Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

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)
890-3621-1	SW02	91	81

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)
880-22702-A-66-B MS	Matrix Spike	132 S1+	95
880-22702-A-66-C MSD	Matrix Spike Duplicate	136 S1+	97
890-3621-1	SW02	129	117
LCS 880-41834/2-A	Lab Control Sample	94	103
LCSD 880-41834/3-A	Lab Control Sample Dup	101	112
MB 880-41834/1-A	Method Blank	130	123

Surrogate Legend

1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

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

Lab Sample ID: MB 880-41834/1-A
Matrix: Solid
Analysis Batch: 41874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41834

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/14/22 13:21	12/15/22 08:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/14/22 13:21	12/15/22 08:42	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/14/22 13:21	12/15/22 08:42	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	130		70 - 130	12/14/22 13:21	12/15/22 08:42	1
o-Terphenyl	123		70 - 130	12/14/22 13:21	12/15/22 08:42	1

Lab Sample ID: LCS 880-41834/2-A
Matrix: Solid
Analysis Batch: 41874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41834

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	842.1		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	1000	855.1		mg/Kg		86	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	94		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-41834/3-A
Matrix: Solid
Analysis Batch: 41874

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41834

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	923.6		mg/Kg		92	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	985.0		mg/Kg		99	70 - 130	14	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	101		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: 880-22702-A-66-B MS
Matrix: Solid
Analysis Batch: 41874

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41834

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	2370	F1	999	2758	F1	mg/Kg		39	70 - 130
Diesel Range Organics (Over C10-C28)	2240	F1	999	2784	F1	mg/Kg		55	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

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

Lab Sample ID: 880-22702-A-66-B MS
 Matrix: Solid
 Analysis Batch: 41874

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 41834

Surrogate	%Recovery	MS MS Qualifier	Limits
1-Chlorooctane	132	S1+	70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 880-22702-A-66-C MSD
 Matrix: Solid
 Analysis Batch: 41874

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 41834

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	2370	F1	997	2823	F1	mg/Kg		45	70 - 130	2	20	
Diesel Range Organics (Over C10-C28)	2240	F1	997	2911	F1	mg/Kg		67	70 - 130	4	20	

Surrogate	%Recovery	MSD MSD Qualifier	Limits
1-Chlorooctane	136	S1+	70 - 130
o-Terphenyl	97		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41755/1-A
 Matrix: Solid
 Analysis Batch: 42176

Client Sample ID: Method Blank
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/20/22 11:06	1

Lab Sample ID: LCS 880-41755/2-A
 Matrix: Solid
 Analysis Batch: 42176

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	229.8		mg/Kg		92	90 - 110

Lab Sample ID: LCSD 880-41755/3-A
 Matrix: Solid
 Analysis Batch: 42176

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Chloride	250	230.6		mg/Kg		92	90 - 110	0	20

Lab Sample ID: 890-3621-1 MS
 Matrix: Solid
 Analysis Batch: 42176

Client Sample ID: SW02
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	71.0	F1	250	292.0	F1	mg/Kg		88	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3621-1 MSD
Matrix: Solid
Analysis Batch: 42176

Client Sample ID: SW02
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	71.0	F1	250	292.4	F1	mg/Kg		89	90 - 110	0	20

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QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

GC VOA

Analysis Batch: 42465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	8021B	42482

Prep Batch: 42482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	5035	

Analysis Batch: 42619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	8015NM Prep	
MB 880-41834/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41834/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCS 880-41834/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-22702-A-66-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-22702-A-66-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	8015B NM	41834
MB 880-41834/1-A	Method Blank	Total/NA	Solid	8015B NM	41834
LCS 880-41834/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41834
LCS 880-41834/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41834
880-22702-A-66-B MS	Matrix Spike	Total/NA	Solid	8015B NM	41834
880-22702-A-66-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41834

Analysis Batch: 42026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Soluble	Solid	DI Leach	
MB 880-41755/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41755/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCS 880-41755/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3621-1 MS	SW02	Soluble	Solid	DI Leach	
890-3621-1 MSD	SW02	Soluble	Solid	DI Leach	

Analysis Batch: 42176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1	SW02	Soluble	Solid	300.0	41755
MB 880-41755/1-A	Method Blank	Soluble	Solid	300.0	41755
LCS 880-41755/2-A	Lab Control Sample	Soluble	Solid	300.0	41755
LCS 880-41755/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41755
890-3621-1 MS	SW02	Soluble	Solid	300.0	41755

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

HPLC/IC (Continued)

Analysis Batch: 42176 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3621-1 MSD	SW02	Soluble	Solid	300.0	41755

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Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

Client Sample ID: SW02
Date Collected: 12/09/22 13:30
Date Received: 12/12/22 12:41

Lab Sample ID: 890-3621-1
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	42482	12/22/22 09:05	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42465	12/23/22 16:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42619	12/26/22 16:44	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42026	12/16/22 11:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41834	12/15/22 13:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41874	12/15/22 18:13	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41755	12/13/22 13:06	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42176	12/20/22 11:19	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

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	T104704400-22-25	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
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3621-1
 SDG: 03E1558023

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: Row 4 Muy Wayno Line

Job ID: 890-3621-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3621-1	SW02	Solid	12/09/22 13:30	12/12/22 12:41	0-2'

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Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different):	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Row 4 Muy Wayno Line	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558023	Due Date:			
Project Location:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:					
PO #:					



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	
							CHLORIDES (EPA: 300.0)	TPH (8015)
SW02	S	12/5/22	1:30	0-2	C	1	BTEX (8021)	
SW01								

Total 200.7 / 6010 200.8 / 6020: RRCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: RRCRA 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
<i>C.H.H.</i>	<i>Amorelly</i>	12/12/22 1841			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3621-1

SDG Number: 03E1558023

Login Number: 3621

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3621-1

SDG Number: 03E1558023

Login Number: 3621

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 12/13/22 11:24 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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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701

Generated 12/23/2022 9:48:10 PM

JOB DESCRIPTION

Row 4 Muy Wayno Line
 SDG NUMBER 03E1558023

JOB NUMBER

890-3624-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220

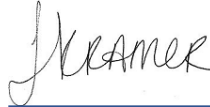


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/23/2022 9:48:10 PM

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

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Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-3624-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

Job ID: 890-3624-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-3624-1****Receipt**

The samples were received on 12/12/2022 12:41 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS05 (890-3624-1) and FS06 (890-3624-2).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42420 and analytical batch 880-42466 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: The following samples were analyzed outside of analytical holding time due to instrument stoppages: FS05 (890-3624-1) and FS06 (890-3624-2).

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41840 and analytical batch 880-42076 was outside the upper control limits.

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41755 and analytical batch 880-42176 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: Row 4 Muy Wayno Line

Job ID: 890-3624-1
 SDG: 03E1558023

Client Sample ID: FS05

Lab Sample ID: 890-3624-1

Date Collected: 12/08/22 10:30

Matrix: Solid

Date Received: 12/12/22 12:41

Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U H	0.00199	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
Toluene	<0.00199	U H	0.00199	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
Ethylbenzene	<0.00199	U H	0.00199	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
m-Xylene & p-Xylene	<0.00398	U H	0.00398	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
o-Xylene	<0.00199	U H	0.00199	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
Xylenes, Total	<0.00398	U H	0.00398	mg/Kg		12/21/22 12:40	12/23/22 06:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			12/21/22 12:40	12/23/22 06:09	1
1,4-Difluorobenzene (Surr)	98		70 - 130			12/21/22 12:40	12/23/22 06:09	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			12/23/22 08:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/19/22 15:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/14/22 14:33	12/17/22 11:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/14/22 14:33	12/17/22 11:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/14/22 14:33	12/17/22 11:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130			12/14/22 14:33	12/17/22 11:39	1
o-Terphenyl	95		70 - 130			12/14/22 14:33	12/17/22 11:39	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.5		5.05	mg/Kg			12/20/22 12:19	1

Client Sample ID: FS06

Lab Sample ID: 890-3624-2

Date Collected: 12/08/22 09:25

Matrix: Solid

Date Received: 12/12/22 12:41

Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U H	0.00200	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
Toluene	<0.00200	U H	0.00200	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
Ethylbenzene	<0.00200	U H	0.00200	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
m-Xylene & p-Xylene	<0.00399	U H	0.00399	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
o-Xylene	<0.00200	U H	0.00200	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
Xylenes, Total	<0.00399	U H	0.00399	mg/Kg		12/21/22 12:40	12/23/22 06:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			12/21/22 12:40	12/23/22 06:30	1

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Client Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
 SDG: 03E1558023

Client Sample ID: FS06

Lab Sample ID: 890-3624-2

Date Collected: 12/08/22 09:25

Matrix: Solid

Date Received: 12/12/22 12:41

Sample Depth: 2'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	12/21/22 12:40	12/23/22 06:30	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/23/22 08:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/14/22 14:33	12/17/22 12:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/14/22 14:33	12/17/22 12:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/14/22 14:33	12/17/22 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	12/14/22 14:33	12/17/22 12:46	1
o-Terphenyl	101		70 - 130	12/14/22 14:33	12/17/22 12:46	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	198		4.95	mg/Kg			12/20/22 12:23	1

Surrogate Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-22580-A-2-C MS	Matrix Spike	96	94
880-22580-A-2-D MSD	Matrix Spike Duplicate	94	96
890-3624-1	FS05	111	98
890-3624-2	FS06	116	99
LCS 880-42420/1-A	Lab Control Sample	93	96
LCSD 880-42420/2-A	Lab Control Sample Dup	98	95
MB 880-42358/5-A	Method Blank	100	86
MB 880-42420/5-A	Method Blank	97	90

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-3624-1	FS05	98	95
890-3624-1 MS	FS05	119	92
890-3624-1 MSD	FS05	106	92
890-3624-2	FS06	104	101
LCS 880-41840/2-A	Lab Control Sample	109	103
LCSD 880-41840/3-A	Lab Control Sample Dup	106	114
MB 880-41840/1-A	Method Blank	141 S1+	140 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42358/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42358

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/20/22 21:37	12/22/22 11:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/20/22 21:37	12/22/22 11:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/20/22 21:37	12/22/22 11:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/20/22 21:37	12/22/22 11:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/20/22 21:37	12/22/22 11:19	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/20/22 21:37	12/22/22 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130	12/20/22 21:37	12/22/22 11:19	1
1,4-Difluorobenzene (Surr)	86		70 - 130	12/20/22 21:37	12/22/22 11:19	1

Lab Sample ID: MB 880-42420/5-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42420

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/21/22 12:40	12/22/22 22:51	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/21/22 12:40	12/22/22 22:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/21/22 12:40	12/22/22 22:51	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/21/22 12:40	12/22/22 22:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130	12/21/22 12:40	12/22/22 22:51	1
1,4-Difluorobenzene (Surr)	90		70 - 130	12/21/22 12:40	12/22/22 22:51	1

Lab Sample ID: LCS 880-42420/1-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08886		mg/Kg		89	70 - 130
Toluene	0.100	0.08400		mg/Kg		84	70 - 130
Ethylbenzene	0.100	0.07872		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1638		mg/Kg		82	70 - 130
o-Xylene	0.100	0.08467		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	96		70 - 130

Lab Sample ID: LCSD 880-42420/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42420

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08880		mg/Kg		89	70 - 130	0	35

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

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

Lab Sample ID: LCSD 880-42420/2-A
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42420

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Toluene	0.100	0.08616		mg/Kg		86	70 - 130	3	35	
Ethylbenzene	0.100	0.08076		mg/Kg		81	70 - 130	3	35	
m-Xylene & p-Xylene	0.200	0.1712		mg/Kg		86	70 - 130	4	35	
o-Xylene	0.100	0.08842		mg/Kg		88	70 - 130	4	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	98		70 - 130							
1,4-Difluorobenzene (Surr)	95		70 - 130							

Lab Sample ID: 880-22580-A-2-C MS
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42420

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U	0.101	0.07356		mg/Kg		73	70 - 130		35	
Toluene	<0.00201	U	0.101	0.07069		mg/Kg		70	70 - 130		35	
Ethylbenzene	<0.00201	U F1	0.101	0.06677	F1	mg/Kg		66	70 - 130		35	
m-Xylene & p-Xylene	<0.00402	U F1	0.202	0.1415		mg/Kg		70	70 - 130		35	
o-Xylene	<0.00201	U	0.101	0.07261		mg/Kg		72	70 - 130		35	
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	96		70 - 130									
1,4-Difluorobenzene (Surr)	94		70 - 130									

Lab Sample ID: 880-22580-A-2-D MSD
Matrix: Solid
Analysis Batch: 42466

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42420

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U	0.0996	0.07552		mg/Kg		76	70 - 130	3	35	
Toluene	<0.00201	U	0.0996	0.07153		mg/Kg		72	70 - 130	1	35	
Ethylbenzene	<0.00201	U F1	0.0996	0.06582	F1	mg/Kg		66	70 - 130	1	35	
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.1370	F1	mg/Kg		69	70 - 130	3	35	
o-Xylene	<0.00201	U	0.0996	0.07054		mg/Kg		71	70 - 130	3	35	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	94		70 - 130									
1,4-Difluorobenzene (Surr)	96		70 - 130									

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

Lab Sample ID: MB 880-41840/1-A
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41840

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil	Fac

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

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

Lab Sample ID: MB 880-41840/1-A
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41840

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/14/22 14:33	12/17/22 08:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/14/22 14:33	12/17/22 08:52	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	141	S1+	70 - 130	12/14/22 14:33	12/17/22 08:52	1
o-Terphenyl	140	S1+	70 - 130	12/14/22 14:33	12/17/22 08:52	1

Lab Sample ID: LCS 880-41840/2-A
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41840

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	1000	873.8		mg/Kg		87	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	109		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: LCSD 880-41840/3-A
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41840

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (Over C10-C28)	1000	976.8		mg/Kg		98	70 - 130	11	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	106		70 - 130
o-Terphenyl	114		70 - 130

Lab Sample ID: 890-3624-1 MS
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 41840

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1103		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1025		mg/Kg		103	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	119		70 - 130
o-Terphenyl	92		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

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

Lab Sample ID: 890-3624-1 MSD
Matrix: Solid
Analysis Batch: 42076

Client Sample ID: FS05
Prep Type: Total/NA
Prep Batch: 41840

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	997	1074		mg/Kg		108	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1029		mg/Kg		103	70 - 130	0	20
Surrogate	%Recovery	MSD Qualifier		MSD Limits							
1-Chlorooctane	106			70 - 130							
o-Terphenyl	92			70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41755/1-A
Matrix: Solid
Analysis Batch: 42176

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			12/20/22 11:06	1

Lab Sample ID: LCS 880-41755/2-A
Matrix: Solid
Analysis Batch: 42176

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	229.8		mg/Kg		92	90 - 110

Lab Sample ID: LCSD 880-41755/3-A
Matrix: Solid
Analysis Batch: 42176

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	230.6		mg/Kg		92	90 - 110	0	20

Lab Sample ID: 890-3621-A-1-B MS
Matrix: Solid
Analysis Batch: 42176

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	71.0	F1	250	292.0	F1	mg/Kg		88	90 - 110

Lab Sample ID: 890-3621-A-1-C MSD
Matrix: Solid
Analysis Batch: 42176

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	71.0	F1	250	292.4	F1	mg/Kg		89	90 - 110	0	20

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QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
 SDG: 03E1558023

GC VOA

Prep Batch: 42358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42358/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 42420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	5035	
890-3624-2	FS06	Total/NA	Solid	5035	
MB 880-42420/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42420/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42420/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22580-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-22580-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	8021B	42420
890-3624-2	FS06	Total/NA	Solid	8021B	42420
MB 880-42358/5-A	Method Blank	Total/NA	Solid	8021B	42358
MB 880-42420/5-A	Method Blank	Total/NA	Solid	8021B	42420
LCS 880-42420/1-A	Lab Control Sample	Total/NA	Solid	8021B	42420
LCSD 880-42420/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42420
880-22580-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	42420
880-22580-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42420

Analysis Batch: 42561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	Total BTEX	
890-3624-2	FS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	8015NM Prep	
890-3624-2	FS06	Total/NA	Solid	8015NM Prep	
MB 880-41840/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41840/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41840/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3624-1 MS	FS05	Total/NA	Solid	8015NM Prep	
890-3624-1 MSD	FS05	Total/NA	Solid	8015NM Prep	

Analysis Batch: 42076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	8015B NM	41840
890-3624-2	FS06	Total/NA	Solid	8015B NM	41840
MB 880-41840/1-A	Method Blank	Total/NA	Solid	8015B NM	41840
LCS 880-41840/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41840
LCSD 880-41840/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41840
890-3624-1 MS	FS05	Total/NA	Solid	8015B NM	41840
890-3624-1 MSD	FS05	Total/NA	Solid	8015B NM	41840

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QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

GC Semi VOA

Analysis Batch: 42193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Total/NA	Solid	8015 NM	
890-3624-2	FS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 41755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Soluble	Solid	DI Leach	
890-3624-2	FS06	Soluble	Solid	DI Leach	
MB 880-41755/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41755/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41755/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3621-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3621-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3624-1	FS05	Soluble	Solid	300.0	41755
890-3624-2	FS06	Soluble	Solid	300.0	41755
MB 880-41755/1-A	Method Blank	Soluble	Solid	300.0	41755
LCS 880-41755/2-A	Lab Control Sample	Soluble	Solid	300.0	41755
LCSD 880-41755/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41755
890-3621-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41755
890-3621-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41755

Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
 SDG: 03E1558023

Client Sample ID: FS05

Lab Sample ID: 890-3624-1

Date Collected: 12/08/22 10:30

Matrix: Solid

Date Received: 12/12/22 12:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42420	12/21/22 12:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42466	12/23/22 06:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42561	12/23/22 08:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42193	12/19/22 15:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41840	12/14/22 14:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42076	12/17/22 11:39	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	41755	12/13/22 13:06	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42176	12/20/22 12:19	CH	EET MID

Client Sample ID: FS06

Lab Sample ID: 890-3624-2

Date Collected: 12/08/22 09:25

Matrix: Solid

Date Received: 12/12/22 12:41

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	42420	12/21/22 12:40	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42466	12/23/22 06:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42561	12/23/22 08:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42193	12/19/22 15:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41840	12/14/22 14:33	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42076	12/17/22 12:46	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41755	12/13/22 13:06	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42176	12/20/22 12:23	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: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

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	T104704400-22-25	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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-3624-1
 SDG: 03E1558023

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: Row 4 Muy Wayno Line

Job ID: 890-3624-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3624-1	FS05	Solid	12/08/22 10:30	12/12/22 12:41	3'
890-3624-2	FS06	Solid	12/08/22 09:25	12/12/22 12:41	2'

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3624-1

SDG Number: 03E1558023

Login Number: 3624

List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3624-1

SDG Number: 03E1558023

Login Number: 3624

List Source: Eurofins Midland

List Number: 2

List Creation: 12/13/22 11:24 AM

Creator: Rodriguez, Leticia

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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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 2/17/2023 10:20:32 AM

JOB DESCRIPTION

Row 4 Muy Wayno Line
SDG NUMBER 03C1558023

JOB NUMBER

890-4091-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

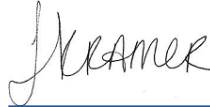


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/17/2023 10:20:32 AM

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

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-4091-1
SDG: 03C1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Qualifiers

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.
α	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: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Job ID: 890-4091-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-4091-1**

Receipt

The samples were received on 2/13/2023 11:38 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 5.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS07 (890-4091-1), FS08 (890-4091-2), FS09 (890-4091-3), FS10 (890-4091-4), FS11 (890-4091-5), FS12 (890-4091-6), FS13 (890-4091-7), FS14 (890-4091-8), FS15 (890-4091-9), FS16 (890-4091-10), FS17 (890-4091-11), FS18 (890-4091-12), FS19 (890-4091-13), FS20 (890-4091-14), FS21 (890-4091-15), FS22 (890-4091-16), FS23 (890-4091-17), FS24 (890-4091-18), FS25 (890-4091-19), FS26 (890-4091-20), FS27 (890-4091-21), FS28 (890-4091-22), FS29 (890-4091-23), FS30 (890-4091-24), FS31 (890-4091-25), FS32 (890-4091-26), FS33 (890-4091-27), FS34 (890-4091-28), SW03 (890-4091-29) and SW04 (890-4091-30).

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-46405 and analytical batch 880-46536 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-46404 and analytical batch 880-46535 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: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Client Sample ID: FS07

Lab Sample ID: 890-4091-1

Date Collected: 02/09/23 13:30
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	221		4.95	mg/Kg			02/15/23 21:45	1

Client Sample ID: FS08

Lab Sample ID: 890-4091-2

Date Collected: 02/09/23 13:35
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	573		5.04	mg/Kg			02/15/23 21:49	1

Client Sample ID: FS09

Lab Sample ID: 890-4091-3

Date Collected: 02/09/23 13:40
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	331		5.00	mg/Kg			02/15/23 21:54	1

Client Sample ID: FS10

Lab Sample ID: 890-4091-4

Date Collected: 02/09/23 13:45
Date Received: 02/13/23 11:38
Sample Depth: 3

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	50.7		4.99	mg/Kg			02/15/23 21:58	1

Client Sample ID: FS11

Lab Sample ID: 890-4091-5

Date Collected: 02/09/23 13:50
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3640		24.8	mg/Kg			02/15/23 22:03	5

Client Sample ID: FS12

Lab Sample ID: 890-4091-6

Date Collected: 02/09/23 13:55
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	241		5.03	mg/Kg			02/16/23 12:13	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS13

Lab Sample ID: 890-4091-7

Date Collected: 02/09/23 14:00
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3920		25.0	mg/Kg			02/16/23 12:27	5

Client Sample ID: FS14

Lab Sample ID: 890-4091-8

Date Collected: 02/09/23 14:05
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	871		4.97	mg/Kg			02/16/23 12:32	1

Client Sample ID: FS15

Lab Sample ID: 890-4091-9

Date Collected: 02/09/23 14:10
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3920		25.3	mg/Kg			02/16/23 12:37	5

Client Sample ID: FS16

Lab Sample ID: 890-4091-10

Date Collected: 02/09/23 14:15
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3830		25.0	mg/Kg			02/16/23 12:42	5

Client Sample ID: FS17

Lab Sample ID: 890-4091-11

Date Collected: 02/09/23 14:20
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	711		5.01	mg/Kg			02/16/23 12:57	1

Client Sample ID: FS18

Lab Sample ID: 890-4091-12

Date Collected: 02/09/23 14:25
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2440		25.0	mg/Kg			02/16/23 13:02	5

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS19

Lab Sample ID: 890-4091-13

Date Collected: 02/09/23 14:30
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3130		25.1	mg/Kg			02/16/23 13:07	5

Client Sample ID: FS20

Lab Sample ID: 890-4091-14

Date Collected: 02/09/23 14:35
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	375		5.01	mg/Kg			02/16/23 13:12	1

Client Sample ID: FS21

Lab Sample ID: 890-4091-15

Date Collected: 02/09/23 14:40
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6660		50.0	mg/Kg			02/16/23 13:17	10

Client Sample ID: FS22

Lab Sample ID: 890-4091-16

Date Collected: 02/09/23 14:45
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2080	F1	25.0	mg/Kg			02/16/23 13:22	5

Client Sample ID: FS23

Lab Sample ID: 890-4091-17

Date Collected: 02/09/23 14:50
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	285		5.02	mg/Kg			02/16/23 13:37	1

Client Sample ID: FS24

Lab Sample ID: 890-4091-18

Date Collected: 02/09/23 14:55
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		5.00	mg/Kg			02/16/23 13:41	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS25

Lab Sample ID: 890-4091-19

Date Collected: 02/09/23 15:00
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.98	U	4.98	mg/Kg			02/16/23 20:12	1

Client Sample ID: FS26

Lab Sample ID: 890-4091-20

Date Collected: 02/09/23 15:05
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	552		4.95	mg/Kg			02/16/23 20:17	1

Client Sample ID: FS27

Lab Sample ID: 890-4091-21

Date Collected: 02/09/23 15:10
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1090		5.00	mg/Kg			02/16/23 20:22	1

Client Sample ID: FS28

Lab Sample ID: 890-4091-22

Date Collected: 02/09/23 15:15
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	202		4.99	mg/Kg			02/16/23 20:26	1

Client Sample ID: FS29

Lab Sample ID: 890-4091-23

Date Collected: 02/09/23 15:20
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1780		25.1	mg/Kg			02/16/23 20:31	5

Client Sample ID: FS30

Lab Sample ID: 890-4091-24

Date Collected: 02/09/23 15:25
 Date Received: 02/13/23 11:38
 Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6040		49.7	mg/Kg			02/16/23 20:36	10

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Client Sample ID: FS31

Lab Sample ID: 890-4091-25

Date Collected: 02/09/23 15:30
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	504		4.98	mg/Kg			02/16/23 20:41	1

Client Sample ID: FS32

Lab Sample ID: 890-4091-26

Date Collected: 02/09/23 15:35
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1350		25.0	mg/Kg			02/16/23 16:13	5

Client Sample ID: FS33

Lab Sample ID: 890-4091-27

Date Collected: 02/09/23 15:40
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	400		49.9	mg/Kg			02/16/23 16:18	10

Client Sample ID: FS34

Lab Sample ID: 890-4091-28

Date Collected: 02/09/23 15:45
Date Received: 02/13/23 11:38
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69.4		5.01	mg/Kg			02/16/23 16:23	1

Client Sample ID: SW03

Lab Sample ID: 890-4091-29

Date Collected: 02/09/23 11:30
Date Received: 02/13/23 11:38
Sample Depth: 0 - 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	108		4.97	mg/Kg			02/16/23 16:27	1

Client Sample ID: SW04

Lab Sample ID: 890-4091-30

Date Collected: 02/09/23 12:10
Date Received: 02/13/23 11:38
Sample Depth: 0 - 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	534		4.98	mg/Kg			02/16/23 16:32	1

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46319/1-A
Matrix: Solid
Analysis Batch: 46460

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			02/15/23 19:44	1

Lab Sample ID: LCS 880-46319/2-A
Matrix: Solid
Analysis Batch: 46460

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	244.1		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-46319/3-A
Matrix: Solid
Analysis Batch: 46460

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	256.0		mg/Kg		102	90 - 110	5	20

Lab Sample ID: 890-4089-A-4-B MS
Matrix: Solid
Analysis Batch: 46460

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	24.8		249	262.3		mg/Kg		95	90 - 110

Lab Sample ID: 890-4089-A-4-C MSD
Matrix: Solid
Analysis Batch: 46460

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	24.8		249	252.9		mg/Kg		92	90 - 110	4	20

Lab Sample ID: MB 880-46404/1-A
Matrix: Solid
Analysis Batch: 46535

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			02/16/23 11:59	1

Lab Sample ID: LCS 880-46404/2-A
Matrix: Solid
Analysis Batch: 46535

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	238.0		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-46404/3-A
Matrix: Solid
Analysis Batch: 46535

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	236.8		mg/Kg		95	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-4091-6 MS
Matrix: Solid
Analysis Batch: 46535

Client Sample ID: FS12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	241		252	491.1		mg/Kg		99	90 - 110

Lab Sample ID: 890-4091-6 MSD
Matrix: Solid
Analysis Batch: 46535

Client Sample ID: FS12
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	241		252	512.1		mg/Kg		108	90 - 110	4	20

Lab Sample ID: 890-4091-16 MS
Matrix: Solid
Analysis Batch: 46535

Client Sample ID: FS22
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2080	F1	1250	3384		mg/Kg		104	90 - 110

Lab Sample ID: 890-4091-16 MSD
Matrix: Solid
Analysis Batch: 46535

Client Sample ID: FS22
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2080	F1	1250	3528	F1	mg/Kg		116	90 - 110	4	20

Lab Sample ID: MB 880-46405/1-A
Matrix: Solid
Analysis Batch: 46536

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			02/16/23 14:06	1

Lab Sample ID: LCS 880-46405/2-A
Matrix: Solid
Analysis Batch: 46536

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	239.4		mg/Kg		96	90 - 110

Lab Sample ID: LCSD 880-46405/3-A
Matrix: Solid
Analysis Batch: 46536

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	249.8		mg/Kg		100	90 - 110	4	20

Lab Sample ID: 880-24695-A-1-B MS
Matrix: Solid
Analysis Batch: 46536

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	2810	F1	1260	4220	F1	mg/Kg		113	90 - 110

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QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-24695-A-1-C MSD
Matrix: Solid
Analysis Batch: 46536

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	2810	F1	1260	4226	F1	mg/Kg		113	90 - 110	0	20

Lab Sample ID: 880-24699-A-2-B MS
Matrix: Solid
Analysis Batch: 46536

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6210	F1	2500	9163	F1	mg/Kg		118	90 - 110		

Lab Sample ID: 880-24699-A-2-C MSD
Matrix: Solid
Analysis Batch: 46536

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	6210	F1	2500	9021	F1	mg/Kg		112	90 - 110	2	20

QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

HPLC/IC

Leach Batch: 46319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-1	FS07	Soluble	Solid	DI Leach	
890-4091-2	FS08	Soluble	Solid	DI Leach	
890-4091-3	FS09	Soluble	Solid	DI Leach	
890-4091-4	FS10	Soluble	Solid	DI Leach	
890-4091-5	FS11	Soluble	Solid	DI Leach	
MB 880-46319/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46319/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46319/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4089-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4089-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 46404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-6	FS12	Soluble	Solid	DI Leach	
890-4091-7	FS13	Soluble	Solid	DI Leach	
890-4091-8	FS14	Soluble	Solid	DI Leach	
890-4091-9	FS15	Soluble	Solid	DI Leach	
890-4091-10	FS16	Soluble	Solid	DI Leach	
890-4091-11	FS17	Soluble	Solid	DI Leach	
890-4091-12	FS18	Soluble	Solid	DI Leach	
890-4091-13	FS19	Soluble	Solid	DI Leach	
890-4091-14	FS20	Soluble	Solid	DI Leach	
890-4091-15	FS21	Soluble	Solid	DI Leach	
890-4091-16	FS22	Soluble	Solid	DI Leach	
890-4091-17	FS23	Soluble	Solid	DI Leach	
890-4091-18	FS24	Soluble	Solid	DI Leach	
890-4091-19	FS25	Soluble	Solid	DI Leach	
890-4091-20	FS26	Soluble	Solid	DI Leach	
890-4091-21	FS27	Soluble	Solid	DI Leach	
890-4091-22	FS28	Soluble	Solid	DI Leach	
890-4091-23	FS29	Soluble	Solid	DI Leach	
890-4091-24	FS30	Soluble	Solid	DI Leach	
890-4091-25	FS31	Soluble	Solid	DI Leach	
MB 880-46404/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46404/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46404/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4091-6 MS	FS12	Soluble	Solid	DI Leach	
890-4091-6 MSD	FS12	Soluble	Solid	DI Leach	
890-4091-16 MS	FS22	Soluble	Solid	DI Leach	
890-4091-16 MSD	FS22	Soluble	Solid	DI Leach	

Leach Batch: 46405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-26	FS32	Soluble	Solid	DI Leach	
890-4091-27	FS33	Soluble	Solid	DI Leach	
890-4091-28	FS34	Soluble	Solid	DI Leach	
890-4091-29	SW03	Soluble	Solid	DI Leach	
890-4091-30	SW04	Soluble	Solid	DI Leach	
MB 880-46405/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46405/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46405/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

HPLC/IC (Continued)

Leach Batch: 46405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-24695-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-24695-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-24699-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-24699-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 46460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-1	FS07	Soluble	Solid	300.0	46319
890-4091-2	FS08	Soluble	Solid	300.0	46319
890-4091-3	FS09	Soluble	Solid	300.0	46319
890-4091-4	FS10	Soluble	Solid	300.0	46319
890-4091-5	FS11	Soluble	Solid	300.0	46319
MB 880-46319/1-A	Method Blank	Soluble	Solid	300.0	46319
LCS 880-46319/2-A	Lab Control Sample	Soluble	Solid	300.0	46319
LCS 880-46319/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46319
890-4089-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	46319
890-4089-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46319

Analysis Batch: 46535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-6	FS12	Soluble	Solid	300.0	46404
890-4091-7	FS13	Soluble	Solid	300.0	46404
890-4091-8	FS14	Soluble	Solid	300.0	46404
890-4091-9	FS15	Soluble	Solid	300.0	46404
890-4091-10	FS16	Soluble	Solid	300.0	46404
890-4091-11	FS17	Soluble	Solid	300.0	46404
890-4091-12	FS18	Soluble	Solid	300.0	46404
890-4091-13	FS19	Soluble	Solid	300.0	46404
890-4091-14	FS20	Soluble	Solid	300.0	46404
890-4091-15	FS21	Soluble	Solid	300.0	46404
890-4091-16	FS22	Soluble	Solid	300.0	46404
890-4091-17	FS23	Soluble	Solid	300.0	46404
890-4091-18	FS24	Soluble	Solid	300.0	46404
890-4091-19	FS25	Soluble	Solid	300.0	46404
890-4091-20	FS26	Soluble	Solid	300.0	46404
890-4091-21	FS27	Soluble	Solid	300.0	46404
890-4091-22	FS28	Soluble	Solid	300.0	46404
890-4091-23	FS29	Soluble	Solid	300.0	46404
890-4091-24	FS30	Soluble	Solid	300.0	46404
890-4091-25	FS31	Soluble	Solid	300.0	46404
MB 880-46404/1-A	Method Blank	Soluble	Solid	300.0	46404
LCS 880-46404/2-A	Lab Control Sample	Soluble	Solid	300.0	46404
LCS 880-46404/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46404
890-4091-6 MS	FS12	Soluble	Solid	300.0	46404
890-4091-6 MSD	FS12	Soluble	Solid	300.0	46404
890-4091-16 MS	FS22	Soluble	Solid	300.0	46404
890-4091-16 MSD	FS22	Soluble	Solid	300.0	46404

Analysis Batch: 46536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-26	FS32	Soluble	Solid	300.0	46405

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QC Association Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

HPLC/IC (Continued)

Analysis Batch: 46536 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4091-27	FS33	Soluble	Solid	300.0	46405
890-4091-28	FS34	Soluble	Solid	300.0	46405
890-4091-29	SW03	Soluble	Solid	300.0	46405
890-4091-30	SW04	Soluble	Solid	300.0	46405
MB 880-46405/1-A	Method Blank	Soluble	Solid	300.0	46405
LCS 880-46405/2-A	Lab Control Sample	Soluble	Solid	300.0	46405
LCSD 880-46405/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46405
880-24695-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	46405
880-24695-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46405
880-24699-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	46405
880-24699-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46405

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Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS07

Lab Sample ID: 890-4091-1

Date Collected: 02/09/23 13:30

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:45	CH	EET MID

Client Sample ID: FS08

Lab Sample ID: 890-4091-2

Date Collected: 02/09/23 13:35

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:49	CH	EET MID

Client Sample ID: FS09

Lab Sample ID: 890-4091-3

Date Collected: 02/09/23 13:40

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:54	CH	EET MID

Client Sample ID: FS10

Lab Sample ID: 890-4091-4

Date Collected: 02/09/23 13:45

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46460	02/15/23 21:58	CH	EET MID

Client Sample ID: FS11

Lab Sample ID: 890-4091-5

Date Collected: 02/09/23 13:50

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	46319	02/14/23 13:16	KS	EET MID
Soluble	Analysis	300.0		5			46460	02/15/23 22:03	CH	EET MID

Client Sample ID: FS12

Lab Sample ID: 890-4091-6

Date Collected: 02/09/23 13:55

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 12:13	CH	EET MID

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Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS13

Lab Sample ID: 890-4091-7

Date Collected: 02/09/23 14:00

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 12:27	CH	EET MID

Client Sample ID: FS14

Lab Sample ID: 890-4091-8

Date Collected: 02/09/23 14:05

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 12:32	CH	EET MID

Client Sample ID: FS15

Lab Sample ID: 890-4091-9

Date Collected: 02/09/23 14:10

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 12:37	CH	EET MID

Client Sample ID: FS16

Lab Sample ID: 890-4091-10

Date Collected: 02/09/23 14:15

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 12:42	CH	EET MID

Client Sample ID: FS17

Lab Sample ID: 890-4091-11

Date Collected: 02/09/23 14:20

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 12:57	CH	EET MID

Client Sample ID: FS18

Lab Sample ID: 890-4091-12

Date Collected: 02/09/23 14:25

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 13:02	CH	EET MID

Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS19

Lab Sample ID: 890-4091-13

Date Collected: 02/09/23 14:30

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 13:07	CH	EET MID

Client Sample ID: FS20

Lab Sample ID: 890-4091-14

Date Collected: 02/09/23 14:35

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 13:12	CH	EET MID

Client Sample ID: FS21

Lab Sample ID: 890-4091-15

Date Collected: 02/09/23 14:40

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		10			46535	02/16/23 13:17	CH	EET MID

Client Sample ID: FS22

Lab Sample ID: 890-4091-16

Date Collected: 02/09/23 14:45

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 13:22	CH	EET MID

Client Sample ID: FS23

Lab Sample ID: 890-4091-17

Date Collected: 02/09/23 14:50

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 13:37	CH	EET MID

Client Sample ID: FS24

Lab Sample ID: 890-4091-18

Date Collected: 02/09/23 14:55

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 13:41	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Client Sample ID: FS25

Lab Sample ID: 890-4091-19

Date Collected: 02/09/23 15:00

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 20:12	CH	EET MID

Client Sample ID: FS26

Lab Sample ID: 890-4091-20

Date Collected: 02/09/23 15:05

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 20:17	CH	EET MID

Client Sample ID: FS27

Lab Sample ID: 890-4091-21

Date Collected: 02/09/23 15:10

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 20:22	CH	EET MID

Client Sample ID: FS28

Lab Sample ID: 890-4091-22

Date Collected: 02/09/23 15:15

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 20:26	CH	EET MID

Client Sample ID: FS29

Lab Sample ID: 890-4091-23

Date Collected: 02/09/23 15:20

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		5			46535	02/16/23 20:31	CH	EET MID

Client Sample ID: FS30

Lab Sample ID: 890-4091-24

Date Collected: 02/09/23 15:25

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		10			46535	02/16/23 20:36	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Client Sample ID: FS31

Lab Sample ID: 890-4091-25

Date Collected: 02/09/23 15:30

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	46404	02/15/23 10:56	KS	EET MID
Soluble	Analysis	300.0		1			46535	02/16/23 20:41	CH	EET MID

Client Sample ID: FS32

Lab Sample ID: 890-4091-26

Date Collected: 02/09/23 15:35

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	46405	02/15/23 10:58	KS	EET MID
Soluble	Analysis	300.0		5			46536	02/16/23 16:13	CH	EET MID

Client Sample ID: FS33

Lab Sample ID: 890-4091-27

Date Collected: 02/09/23 15:40

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	46405	02/15/23 10:58	KS	EET MID
Soluble	Analysis	300.0		10			46536	02/16/23 16:18	CH	EET MID

Client Sample ID: FS34

Lab Sample ID: 890-4091-28

Date Collected: 02/09/23 15:45

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	46405	02/15/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1			46536	02/16/23 16:23	CH	EET MID

Client Sample ID: SW03

Lab Sample ID: 890-4091-29

Date Collected: 02/09/23 11:30

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	46405	02/15/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1			46536	02/16/23 16:27	CH	EET MID

Client Sample ID: SW04

Lab Sample ID: 890-4091-30

Date Collected: 02/09/23 12:10

Matrix: Solid

Date Received: 02/13/23 11:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	46405	02/15/23 10:58	KS	EET MID
Soluble	Analysis	300.0		1			46536	02/16/23 16:32	CH	EET MID

Laboratory References:

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

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

- 1
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- 13

Method Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
SDG: 03C1558023

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency

Laboratory References:

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



Sample Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4091-1
 SDG: 03C1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4091-1	FS07	Solid	02/09/23 13:30	02/13/23 11:38	2
890-4091-2	FS08	Solid	02/09/23 13:35	02/13/23 11:38	2
890-4091-3	FS09	Solid	02/09/23 13:40	02/13/23 11:38	2
890-4091-4	FS10	Solid	02/09/23 13:45	02/13/23 11:38	3
890-4091-5	FS11	Solid	02/09/23 13:50	02/13/23 11:38	2
890-4091-6	FS12	Solid	02/09/23 13:55	02/13/23 11:38	2
890-4091-7	FS13	Solid	02/09/23 14:00	02/13/23 11:38	2
890-4091-8	FS14	Solid	02/09/23 14:05	02/13/23 11:38	2
890-4091-9	FS15	Solid	02/09/23 14:10	02/13/23 11:38	2
890-4091-10	FS16	Solid	02/09/23 14:15	02/13/23 11:38	2
890-4091-11	FS17	Solid	02/09/23 14:20	02/13/23 11:38	2
890-4091-12	FS18	Solid	02/09/23 14:25	02/13/23 11:38	2
890-4091-13	FS19	Solid	02/09/23 14:30	02/13/23 11:38	2
890-4091-14	FS20	Solid	02/09/23 14:35	02/13/23 11:38	2
890-4091-15	FS21	Solid	02/09/23 14:40	02/13/23 11:38	2
890-4091-16	FS22	Solid	02/09/23 14:45	02/13/23 11:38	2
890-4091-17	FS23	Solid	02/09/23 14:50	02/13/23 11:38	2
890-4091-18	FS24	Solid	02/09/23 14:55	02/13/23 11:38	2
890-4091-19	FS25	Solid	02/09/23 15:00	02/13/23 11:38	2
890-4091-20	FS26	Solid	02/09/23 15:05	02/13/23 11:38	2
890-4091-21	FS27	Solid	02/09/23 15:10	02/13/23 11:38	2
890-4091-22	FS28	Solid	02/09/23 15:15	02/13/23 11:38	2
890-4091-23	FS29	Solid	02/09/23 15:20	02/13/23 11:38	2
890-4091-24	FS30	Solid	02/09/23 15:25	02/13/23 11:38	2
890-4091-25	FS31	Solid	02/09/23 15:30	02/13/23 11:38	2
890-4091-26	FS32	Solid	02/09/23 15:35	02/13/23 11:38	2
890-4091-27	FS33	Solid	02/09/23 15:40	02/13/23 11:38	2
890-4091-28	FS34	Solid	02/09/23 15:45	02/13/23 11:38	2
890-4091-29	SW03	Solid	02/09/23 11:30	02/13/23 11:38	0 - 2
890-4091-30	SW04	Solid	02/09/23 12:10	02/13/23 11:38	0 - 2

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Environment Testing Xenco

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

Chain of Custody

Work Order No: _____

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Page 1 of 3

Project Manager: Ben Bellill
 Company Name: Ensolum, LLC
 Address: 601 N Marientfeld St Suite 400
 City, State ZIP: Midland, TX 79701
 Phone: 989-854-0852
 Email: bbellill@ensolum.com

Bill to: (if different)
 Company Name: XTO Energy
 Address: 3104 E Green St
 City, State ZIP: Carlsbad, NM 88220

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: Row 4 Mwy Wayno Line
 Project Number: 03C1558023
 Project Location: 32,1465,-103,9124
 Sampler's Name: Peter Van Patten
 PO #: _____

Turn Around: Routine Rush
 Due Date: _____
 TAT starts the day received by the lab, if received by 4:30pm

Temp Blank: Yes No
 Thermometer ID: 7100007
 Wet Ice: Yes No
 Samples Received Intact: Yes No
 Cooler Custody Seals: Yes No
 Correction Factor: -0.2
 Sample Custody Seals: Yes No
 Temperature Reading: 5.0
 Total Containers: Corrected Temperature: 5.0

Parameters: CHLORIDES (EPA: 300.0), TPH (8015), BTEX (8021)

ANALYSIS REQUEST

Barcode: 890-4091 Chain of Custody

Preservative Codes: None: NO, DI Water: H₂O, Cool: Cool, MeOH: Me, HCL: HC, HNO₃: HN, H₂SO₄: H₂, H₃PO₄: HP, NaHSO₄: NABIS, Na₂O₃: NaSO₃, Zn Acetate+NaOH: Zn, NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS07	Soil	2/9/2023	1330	2'	Comp 1	X	X	X		AFC DD 247477 CARCMB 01
FS08	Soil	2/9/2023	1335	2'	Comp 1	X	X	X		DD 20701933 CARCMB 01
FS09	Soil	2/9/2023	1340	2'	Comp 1	X	X	X		Incident #
FS10	Soil	2/9/2023	1345	3'	Comp 1	X	X	X		n APP 2209031217
FS11	Soil	2/9/2023	1350	2'	Comp 1	X	X	X		
FS12	Soil	2/9/2023	1355	2'	Comp 1	X	X	X		
FS13	Soil	2/9/2023	1400	2'	Comp 1	X	X	X		
FS14	Soil	2/9/2023	1405	2'	Comp 1	X	X	X		
FS15	Soil	2/9/2023	1410	2'	Comp 1	X	X	X		
FS16	Soil	2/9/2023	1415	2'	Comp 1	X	X	X		

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SIO₂ Na Sr Ti 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 Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	2/13/23 11:38			



Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 3 of 3

Project Manager:	Ben Bellill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	601 N Marientfeld St, Suite 400	Address:	3104 E Green St
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	bbellill@ensolum.com

Work Order Comments	
Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	State of Project:
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Row 4 My Wayno Line	Turn Around	
Project Number:	03C1558023	<input checked="" type="checkbox"/> Routine <input checked="" type="checkbox"/> Shift	Pres. Code
Project Location:	32.1465, -103.9124	Due Date:	
Sampler's Name:	Peter Van Patten	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			
SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:
Samples Received Intact:	Yes No	Thermometer ID:	
Cooler Custody Seals:	Yes No	Correction Factor:	
Sample Custody Seals:	Yes No	Temperature Reading:	
Total Containers:	Yes No	Corrected Temperature:	
Sample Identification	Matrix	Date Sampled	Time Sampled
			Depth
			Grab/ # of Cont
			Parameters

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ # of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS27	Soil	2/8/2023	1510	2'	Comp 1	X	X	X		None: NO DI Water: H ₂ O	
FS28	Soil	2/8/2023	1515	2'	Comp 1	X	X	X		Cool: Cool MeOH: Me	
FS29	Soil	2/8/2023	1520	2'	Comp 1	X	X	X		HCL: HC HNO ₃ : HN	
FS30	Soil	2/8/2023	1525	2'	Comp 1	X	X	X		H ₂ SO ₄ : H ₂ NaOH: Na	
FS31	Soil	2/8/2023	1530	2'	Comp 1	X	X	X		H ₃ PO ₄ : HP	
FS32	Soil	2/8/2023	1535	2'	Comp 1	X	X	X		NaHSO ₄ : NABIS	
FS33	Soil	2/8/2023	1540	2'	Comp 1	X	X	X		Na ₂ S ₂ O ₃ : NaSO ₃	
FS34	Soil	2/8/2023	1545	2'	Comp 1	X	X	X		Zn Acetate+NaOH: Zn	
SW03	Soil	2/8/2023	1130	0-2'	Comp 1	X	X	X		NaOH+Ascorbic Acid: SAPC	
SW04	Soil	2/8/2023	1210	0-2'	Comp 1	X	X	X			

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Circle Method(s) and Metal(s) to be analyzed

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 \$65.00 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 2 3 4 5 6 7 8 9 10 11 12 13

Eurofins Carlsbad

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

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)

Client Contact:
Shipping/Receiving:
Company: Eurofins Environment Testing South Cent

Sampler:
Phone:
Due Date Requested: 2/17/2023

Lab PM:
E-Mail:
Accreditations Required (See note):

Carrier Tracking No(s):
State of Origin:
New Mexico

COC No:
Page:
Page 1 of 4

Job #:
890-4091-1

Address:
1211 W Florida Ave,
City:
Midland

TAT Requested (days)

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - Nitric Acid
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsH2O2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Y - Trizma
Z - other (specify)

State, Zip:
TX, 79701
Phone:
432-704-5440(Tel)
Email:
Project Name:
Row 4 MUY Wayno Line
Site:
Project #:
89000093
SSOW#:

Sample Identification - Client ID (Lab ID)

Table with columns: Sample ID, Sample Date, Sample Time, Sample Type (C=Comp, G=grab), Preservation Code, Matrix (Water, Soil, etc.), Field Filtered Sample (Yes/No), Perform MS/MSD (Yes/No), 8015MOD_NM/8015NM_S_Prep (MOD) Full TPH, 8015MOD_Calc, 300_ORGFM_28D/DI_LEACH Chloride, 8021B/5035FP_Calc (MOD) BTEX, Total_BTEX_GCV, Total Number of containers.

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

Possible Hazard Identification

Unconfirmed
Deliverable Requested I II III IV Other (specify)
Primary Deliverable Rank 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Return To Client
Disposal By Lab
Archive For
Months

Empty Kit Relinquished by:

Date/Time
Company
Date/Time
Company
Date/Time
Company

Relinquished by:

Date/Time
Company
Received by:
Date/Time
Company

Relinquished by:

Date/Time
Company
Received by:
Date/Time
Company

Custody Seals Intact:
Custody Seal No:
A Yes A No

Cooler Temperature(s) °C and Other Remarks

1 2 3 4 5 6 7 8 9 10 11 12 13

Eurofins Carlsbad

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

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No:					
Client Contact:	Phone	Kramer, Jessica			890-1132.3					
Shipping/Receiving		E-Mail	Jessica.Kramer@eurofins.com	State of Origin	New Mexico					
Company:	Eurofins Environment Testing South Cent	Accreditations Required (See note)	NELAP - Texas	Page:	Page 3 of 4					
Address	1211 W Florida Ave	Due Date Requested	2/17/2023	Job #:	890-4091-1					
City	Midland	TAT Requested (days)		Preservation Codes:						
State, Zip	TX, 79701			A HCl	M Hexane					
Phone	432-704-5440(Tel)	PO #:		B NaOH	N None					
Email		WOC #:		C Zn Acetate	O -AsH2O2					
Project Name	Row 4 Wly Wayno Line	Project #:	89000093	D Nitric Acid	P Na2O4S					
Site:		SSOVW#:		E NaHSO4	Q - Na2SO3					
				F MeOH	R Na2S2O3					
				G Amchlor	S H2SO4					
				H Ascorbic Acid	T TSP Dodecylalate					
				I Ice	U Acetone					
				J DI Water	V MCAA					
				K EDTA	W pH 4.5					
				L EDTA	Y Trizma					
				Other:	Z other (Specify)					
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
FS25 (890-4091-19)	2/9/23	15 00	Mountain	Solid		X	X	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	X	
FS26 (890-4091-20)	2/9/23	15 05	Mountain	Solid		X	X	8015MOD_Calc	X	
FS27 (890-4091-21)	2/8/23	15 10	Mountain	Solid		X	X	300_ORGFM_28D/DI_LEACH Chloride	X	
FS28 (890-4091-22)	2/8/23	15 15	Mountain	Solid		X	X	8021B/5035FP_Calc (MOD) BTEX	X	
FS29 (890-4091-23)	2/8/23	15 20	Mountain	Solid		X	X	Total_BTEX_GCV	X	
FS30 (890-4091-24)	2/8/23	15 25	Mountain	Solid		X	X		X	
FS31 (890-4091-25)	2/8/23	15 30	Mountain	Solid		X	X		X	
FS32 (890-4091-26)	2/8/23	15 35	Mountain	Solid		X	X		X	
FS33 (890-4091-27)	2/8/23	15 40	Mountain	Solid		X	X		X	

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

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested I II III IV Other (specify) _____ Primary Deliverable Rank 2
 Special Instructions/QC Requirements _____
 Return To Client
 Disposal By Lab
 Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Relinquished by	Date/Time	Company	Time	Method of Shipment
Relinquished by	Date/Time	Company	Received by	Date/Time
Relinquished by	Date/Time	Company	Received by	Date/Time
Relinquished by	Date/Time	Company	Received by	Date/Time
Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks		

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4091-1

SDG Number: 03C1558023

Login Number: 4091

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4091-1

SDG Number: 03C1558023

Login Number: 4091

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 02/14/23 12:17 PM

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

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 3/7/2023 1:48:03 PM Revision 1

JOB DESCRIPTION

ROW 4 MUY WAYNO LINE
SDG NUMBER 03C1558023

JOB NUMBER

890-4207-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

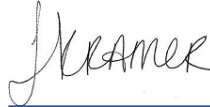


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/7/2023 1:48:03 PM
Revision 1

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

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Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Laboratory Job ID: 890-4207-1
SDG: 03C1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Qualifiers

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.
α	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: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Job ID: 890-4207-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-4207-1**

REVISION

The report being provided is a revision of the original report sent on 3/6/2023. The report (revision 1) is being revised due to Per client email, requesting chloride re run on FS35.

Report revision history

Receipt

The samples were received on 2/28/2023 1:57 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

HPLC/IC

Method 300_ORGFM_28D: Method required MS/MSD and/or duplicate QC were prepared and analyzed at required batch frequency for preparation batch 880-47644 and analytical batch 880-47674 using samples from that have already been run and reported previously.

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

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
 SDG: 03C1558023

Client Sample ID: FS35
 Date Collected: 02/28/23 10:20
 Date Received: 02/28/23 13:57
 Sample Depth: 3

Lab Sample ID: 890-4207-1
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380		5.00	mg/Kg			03/06/23 17:54	1

Client Sample ID: FS36
 Date Collected: 02/28/23 10:25
 Date Received: 02/28/23 13:57
 Sample Depth: 3

Lab Sample ID: 890-4207-2
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	172		4.99	mg/Kg			03/05/23 20:09	1

Client Sample ID: FS37
 Date Collected: 02/28/23 10:30
 Date Received: 02/28/23 13:57
 Sample Depth: 2

Lab Sample ID: 890-4207-3
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	409		5.05	mg/Kg			03/05/23 20:13	1

Client Sample ID: FS38
 Date Collected: 02/28/23 10:35
 Date Received: 02/28/23 13:57
 Sample Depth: 2

Lab Sample ID: 890-4207-4
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	424		5.04	mg/Kg			03/05/23 20:18	1

Client Sample ID: FS39
 Date Collected: 02/28/23 10:40
 Date Received: 02/28/23 13:57
 Sample Depth: 3

Lab Sample ID: 890-4207-5
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.3		4.99	mg/Kg			03/02/23 23:52	1

Client Sample ID: FS40
 Date Collected: 02/28/23 10:45
 Date Received: 02/28/23 13:57
 Sample Depth: 3

Lab Sample ID: 890-4207-6
 Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	61.4		5.00	mg/Kg			03/02/23 23:57	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Client Sample ID: FS41

Lab Sample ID: 890-4207-7

Date Collected: 02/28/23 10:50

Matrix: Solid

Date Received: 02/28/23 13:57

Sample Depth: 3

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	352		5.04	mg/Kg			03/03/23 00:02	1

Client Sample ID: FS42

Lab Sample ID: 890-4207-8

Date Collected: 02/28/23 11:40

Matrix: Solid

Date Received: 02/28/23 13:57

Sample Depth: 1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	359		4.98	mg/Kg			03/03/23 00:07	1

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47644/1-A
Matrix: Solid
Analysis Batch: 47674

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			03/02/23 22:49	1

Lab Sample ID: LCS 880-47644/2-A
Matrix: Solid
Analysis Batch: 47674

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	262.4		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-47644/3-A
Matrix: Solid
Analysis Batch: 47674

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	261.6		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-25305-A-1-D MS
Matrix: Solid
Analysis Batch: 47674

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			252	318.4		mg/Kg			

Lab Sample ID: 880-25305-A-1-E MSD
Matrix: Solid
Analysis Batch: 47674

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			252	319.6		mg/Kg					

Lab Sample ID: MB 880-47779/1-A
Matrix: Solid
Analysis Batch: 47847

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			03/05/23 19:00	1

Lab Sample ID: LCS 880-47779/2-A
Matrix: Solid
Analysis Batch: 47847

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	268.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-47779/3-A
Matrix: Solid
Analysis Batch: 47847

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	268.7		mg/Kg		107	90 - 110	0	20

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QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
 SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-25357-A-21-B MS
Matrix: Solid
Analysis Batch: 47847

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	188		251	443.2		mg/Kg		102	90 - 110

Lab Sample ID: 880-25357-A-21-C MSD
Matrix: Solid
Analysis Batch: 47847

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	188		251	443.1		mg/Kg		102	90 - 110	0	20

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QC Association Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

HPLC/IC

Leach Batch: 47644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4207-5	FS39	Soluble	Solid	DI Leach	
890-4207-6	FS40	Soluble	Solid	DI Leach	
890-4207-7	FS41	Soluble	Solid	DI Leach	
890-4207-8	FS42	Soluble	Solid	DI Leach	
MB 880-47644/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47644/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47644/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-25305-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25305-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4207-5	FS39	Soluble	Solid	300.0	47644
890-4207-6	FS40	Soluble	Solid	300.0	47644
890-4207-7	FS41	Soluble	Solid	300.0	47644
890-4207-8	FS42	Soluble	Solid	300.0	47644
MB 880-47644/1-A	Method Blank	Soluble	Solid	300.0	47644
LCS 880-47644/2-A	Lab Control Sample	Soluble	Solid	300.0	47644
LCSD 880-47644/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47644
880-25305-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	47644
880-25305-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47644

Leach Batch: 47779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4207-1	FS35	Soluble	Solid	DI Leach	
890-4207-2	FS36	Soluble	Solid	DI Leach	
890-4207-3	FS37	Soluble	Solid	DI Leach	
890-4207-4	FS38	Soluble	Solid	DI Leach	
MB 880-47779/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-25357-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25357-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4207-2	FS36	Soluble	Solid	300.0	47779
890-4207-3	FS37	Soluble	Solid	300.0	47779
890-4207-4	FS38	Soluble	Solid	300.0	47779
MB 880-47779/1-A	Method Blank	Soluble	Solid	300.0	47779
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	300.0	47779
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47779
880-25357-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	47779
880-25357-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47779

Analysis Batch: 47887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4207-1	FS35	Soluble	Solid	300.0	47779

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Lab Chronicle

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
 SDG: 03C1558023

Client Sample ID: FS35
 Date Collected: 02/28/23 10:20
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-1
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47887	03/06/23 17:54	CH	EET MID

Client Sample ID: FS36
 Date Collected: 02/28/23 10:25
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-2
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:09	CH	EET MID

Client Sample ID: FS37
 Date Collected: 02/28/23 10:30
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-3
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:13	CH	EET MID

Client Sample ID: FS38
 Date Collected: 02/28/23 10:35
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-4
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:18	CH	EET MID

Client Sample ID: FS39
 Date Collected: 02/28/23 10:40
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-5
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	47644	03/02/23 13:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47674	03/02/23 23:52	CH	EET MID

Client Sample ID: FS40
 Date Collected: 02/28/23 10:45
 Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-6
 Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	47644	03/02/23 13:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47674	03/02/23 23:57	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
 SDG: 03C1558023

Client Sample ID: FS41

Date Collected: 02/28/23 10:50

Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	47644	03/02/23 13:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47674	03/03/23 00:02	CH	EET MID

Client Sample ID: FS42

Date Collected: 02/28/23 11:40

Date Received: 02/28/23 13:57

Lab Sample ID: 890-4207-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	47644	03/02/23 13:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47674	03/03/23 00:07	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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Method Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

Laboratory References:

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

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Sample Summary

Client: Ensolum
Project/Site: ROW 4 MUY WAYNO LINE

Job ID: 890-4207-1
SDG: 03C1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4207-1	FS35	Solid	02/28/23 10:20	02/28/23 13:57	3
890-4207-2	FS36	Solid	02/28/23 10:25	02/28/23 13:57	3
890-4207-3	FS37	Solid	02/28/23 10:30	02/28/23 13:57	2
890-4207-4	FS38	Solid	02/28/23 10:35	02/28/23 13:57	2
890-4207-5	FS39	Solid	02/28/23 10:40	02/28/23 13:57	3
890-4207-6	FS40	Solid	02/28/23 10:45	02/28/23 13:57	3
890-4207-7	FS41	Solid	02/28/23 10:50	02/28/23 13:57	3
890-4207-8	FS42	Solid	02/28/23 11:40	02/28/23 13:57	1

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Environment Testing
Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager: Ben Bellill
 Company Name: Ensdon
 Address: 3122 National Parks Hwy
 City, State ZIP: Carlsbad, NM 88220
 Phone: 303-887-2946
 Email: Garrett.Green@EnsdonMobil.Com

Bill to: (if different)
 Company Name: XTO Energy
 Address: 3109 E. Green St
 City, State ZIP: Carlsbad NM 88220

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: RAVY Nap Vapline
 Project Number: 03C1558623
 Project Location: _____
 Sample's Name: Comm Wtform
 PO #: _____
 SAMPLE RECEIPT
 Samples Received Intact: Yes No
 Cooler Custody Seals: Yes No N/A
 Sample Custody Seals: Yes No N/A
 Total Containers: _____
 Turn Around: Routine Rush
 Due Date: _____
 TAT starts the day received by the lab, if received by 4:30pm
 Wet Ice: Yes No
 Thermometer ID: JMW057
 Correction Factor: -0.08
 Temperature Reading: 5.8
 Corrected Temperature: 5.4
 Parameters: Chloride
 ANALYSIS REQUEST
 Preservative Codes: None: NO, DI Water: H₂O, Cool: Cool, MeOH: Me, HCL: HC, HNO₃: HN, H₂SO₄: H₂, H₃PO₄: HP, NaHSO₄: NAHS, Na₂O₂: NASO, Zn Acetate+NaOH: Zn, NaOH+Ascorbic Acid: SARC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Sample Comments
FS35	S	2/28/03	1020	3	C	1	IB
FS3C			1025	3		1	NAPP2209039217
FS37			1030	2		1	
FS38			1035	2		1	AFE:
FS39			1040	3		1	DD:2017.01927.49. (M) 01
FS40			1045	3		1	DD:2017.01938.66. (M) 01
FS41			1050	3		1	
FS42			1140	1		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 SiO₂ Na Sr Ti 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 Ti U Hg: 1631 / 245.1 / 7470 / 7471

Note: 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 \$95.00 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: 2.28.03 1357

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4207-1
SDG Number: 03C1558023

Login Number: 4207
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4207-1
SDG Number: 03C1558023

Login Number: 4207
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/02/23 12:31 PM

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





Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum

601 N. Marienfeld St.
Suite 400

Midland, Texas 79701

Generated 3/6/2023 4:18:35 PM Revision 1

JOB DESCRIPTION

Row 4 Muy Wayno Line
SDG NUMBER 03C1558023

JOB NUMBER

890-4208-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

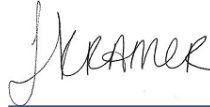


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/6/2023 4:18:35 PM
Revision 1

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

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Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-4208-1
SDG: 03C1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Qualifiers

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.
α	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: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Job ID: 890-4208-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4208-1

REVISION

The report being provided is a revision of the original report sent on 3/6/2023. The report (revision 1) is being revised due to Per client email, requesting sample depth be corrected.

Report revision history

Receipt

The sample was received on 2/28/2023 1:57 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 5.6°C

Receipt Exceptions

The following sample was received and analyzed from an unpreserved bulk soil jar: SW05 (890-4208-1).

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Client Sample ID: SW05
Date Collected: 02/27/23 14:00
Date Received: 02/28/23 13:57
Sample Depth: 0 - 3'

Lab Sample ID: 890-4208-1
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	257		4.98	mg/Kg			03/05/23 20:23	1

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QC Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47779/1-A
Matrix: Solid
Analysis Batch: 47847

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			03/05/23 19:00	1

Lab Sample ID: LCS 880-47779/2-A
Matrix: Solid
Analysis Batch: 47847

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	268.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-47779/3-A
Matrix: Solid
Analysis Batch: 47847

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	268.7		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-4208-1 MS
Matrix: Solid
Analysis Batch: 47847

Client Sample ID: SW05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	257		249	501.2		mg/Kg		98	90 - 110

Lab Sample ID: 890-4208-1 MSD
Matrix: Solid
Analysis Batch: 47847

Client Sample ID: SW05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	257		249	501.0		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
 SDG: 03C1558023

HPLC/IC

Leach Batch: 47779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4208-1	SW05	Soluble	Solid	DI Leach	
MB 880-47779/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4208-1 MS	SW05	Soluble	Solid	DI Leach	
890-4208-1 MSD	SW05	Soluble	Solid	DI Leach	

Analysis Batch: 47847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4208-1	SW05	Soluble	Solid	300.0	47779
MB 880-47779/1-A	Method Blank	Soluble	Solid	300.0	47779
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	300.0	47779
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47779
890-4208-1 MS	SW05	Soluble	Solid	300.0	47779
890-4208-1 MSD	SW05	Soluble	Solid	300.0	47779

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Lab Chronicle

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Client Sample ID: SW05
Date Collected: 02/27/23 14:00
Date Received: 02/28/23 13:57

Lab Sample ID: 890-4208-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.02 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:23	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

- 1
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Method Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

Laboratory References:

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

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Sample Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4208-1
SDG: 03C1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4208-1	SW05	Solid	02/27/23 14:00	02/28/23 13:57	0 - 3'

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Environment Testing
Xenco

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

Chain of Custody


Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Ben Bellini	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Row 4 Mwy Wayno Line	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03C1558023	Due Date:			
Project Location:		TAT starts the day received by the lab. If received by 4:30pm			
Sampler's Name:	Connor Whitman	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
PO #:		Thermometer ID:	NW0007		
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.0		
Samples Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Temperature Reading:	5.8		
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Corrected Temperature:	5.8		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A				
Total Containers:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab Comp	# of Cont	Parameters
5V05	S	2/27/23	2:00	1-2'	C	1	CHLORIDES (EPA: 300.0) TPH (8015) BTEX (8021)
 890-4208 Chain of Custody							
ANALYSIS REQUEST							
Preservative Codes							
None: NO DI Water: H₂O							
Cool: Cool MeOH: Me							
HCL: HC HNO₃: HN							
H ₂ SO ₄ : H ₂ NaOH: Na							
H ₃ PO ₄ : HP							
NaHSO ₄ : NABIS							
Na ₂ S ₂ O ₃ : NaSO ₃							
Zn Acetate+NaOH: Zn							
NaOH+Ascorbic Acid: SAPC							
Sample Comments							
Incident ID: NAPP2209039217							
Cost Center:							
AFE:							
DD 2017.01927 CAP CMP 01							
DD 2017.01933 CAP CMP 01							

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti 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 Ti U Hg: 1631 / 245 / 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 \$95.00 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
<i>CBH</i>	<i>Clue CV</i>	2-28-23 1357			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4208-1
SDG Number: 03C1558023

Login Number: 4208
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4208-1
SDG Number: 03C1558023

Login Number: 4208
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/02/23 12:31 PM

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

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 3/6/2023 1:03:25 PM

JOB DESCRIPTION

Row 4 Muy Wayno Line
 SDG NUMBER 03C1558023

JOB NUMBER

890-4209-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220

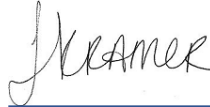


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/6/2023 1:03:25 PM

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

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-4209-1
SDG: 03C1558023

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Definitions/Glossary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
 SDG: 03C1558023

Qualifiers

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.
α	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: Row 4 Muy Wayno Line

Job ID: 890-4209-1
SDG: 03C1558023

Job ID: 890-4209-1

Laboratory: Eurofins Carlsbad**Narrative**

Job Narrative
890-4209-1

Receipt

The samples were received on 2/28/2023 1:57 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

HPLC/IC

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

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Client Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
 SDG: 03C1558023

Client Sample ID: SS06

Lab Sample ID: 890-4209-1

Date Collected: 02/27/23 12:25
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70.3		5.05	mg/Kg			03/05/23 20:38	1

Client Sample ID: SS07

Lab Sample ID: 890-4209-2

Date Collected: 02/27/23 12:30
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.8		4.96	mg/Kg			03/05/23 20:42	1

Client Sample ID: SS08

Lab Sample ID: 890-4209-3

Date Collected: 02/27/23 12:35
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63.6		4.95	mg/Kg			03/05/23 20:57	1

Client Sample ID: SS09

Lab Sample ID: 890-4209-4

Date Collected: 02/27/23 12:45
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	71.4		5.00	mg/Kg			03/05/23 21:02	1

Client Sample ID: SS10

Lab Sample ID: 890-4209-5

Date Collected: 02/27/23 12:55
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	56.8		4.97	mg/Kg			03/05/23 21:07	1

Client Sample ID: SS11

Lab Sample ID: 890-4209-6

Date Collected: 02/27/23 13:00
 Date Received: 02/28/23 13:57
 Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	162		4.97	mg/Kg			03/05/23 21:12	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
 SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47779/1-A
 Matrix: Solid
 Analysis Batch: 47847

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			03/05/23 19:00	1

Lab Sample ID: LCS 880-47779/2-A
 Matrix: Solid
 Analysis Batch: 47847

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	268.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-47779/3-A
 Matrix: Solid
 Analysis Batch: 47847

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	268.7		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-4208-A-1-B MS
 Matrix: Solid
 Analysis Batch: 47847

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	257		249	501.2		mg/Kg		98	90 - 110

Lab Sample ID: 890-4208-A-1-C MSD
 Matrix: Solid
 Analysis Batch: 47847

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	257		249	501.0		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
 SDG: 03C1558023

HPLC/IC

Leach Batch: 47779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4209-1	SS06	Soluble	Solid	DI Leach	
890-4209-2	SS07	Soluble	Solid	DI Leach	
890-4209-3	SS08	Soluble	Solid	DI Leach	
890-4209-4	SS09	Soluble	Solid	DI Leach	
890-4209-5	SS10	Soluble	Solid	DI Leach	
890-4209-6	SS11	Soluble	Solid	DI Leach	
MB 880-47779/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4208-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4208-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4209-1	SS06	Soluble	Solid	300.0	47779
890-4209-2	SS07	Soluble	Solid	300.0	47779
890-4209-3	SS08	Soluble	Solid	300.0	47779
890-4209-4	SS09	Soluble	Solid	300.0	47779
890-4209-5	SS10	Soluble	Solid	300.0	47779
890-4209-6	SS11	Soluble	Solid	300.0	47779
MB 880-47779/1-A	Method Blank	Soluble	Solid	300.0	47779
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	300.0	47779
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47779
890-4208-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	47779
890-4208-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47779

Lab Chronicle

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
 SDG: 03C1558023

Client Sample ID: SS06

Lab Sample ID: 890-4209-1

Date Collected: 02/27/23 12:25

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:38	CH	EET MID

Client Sample ID: SS07

Lab Sample ID: 890-4209-2

Date Collected: 02/27/23 12:30

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:42	CH	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-4209-3

Date Collected: 02/27/23 12:35

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 20:57	CH	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-4209-4

Date Collected: 02/27/23 12:45

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 21:02	CH	EET MID

Client Sample ID: SS10

Lab Sample ID: 890-4209-5

Date Collected: 02/27/23 12:55

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 21:07	CH	EET MID

Client Sample ID: SS11

Lab Sample ID: 890-4209-6

Date Collected: 02/27/23 13:00

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 21:12	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: Row 4 Muy Wayno Line

Job ID: 890-4209-1
SDG: 03C1558023

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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Method Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
SDG: 03C1558023

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency

Laboratory References:

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

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Sample Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4209-1
SDG: 03C1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4209-1	SS06	Solid	02/27/23 12:25	02/28/23 13:57	0.5
890-4209-2	SS07	Solid	02/27/23 12:30	02/28/23 13:57	0.5
890-4209-3	SS08	Solid	02/27/23 12:35	02/28/23 13:57	0.5
890-4209-4	SS09	Solid	02/27/23 12:45	02/28/23 13:57	0.5
890-4209-5	SS10	Solid	02/27/23 12:55	02/28/23 13:57	0.5
890-4209-6	SS11	Solid	02/27/23 13:00	02/28/23 13:57	0.5

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Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Beill	Bill to: (if different)	Garrett Green
Company Name:	Ensolium	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments	
Program:	<input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting:	Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables:	<input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Row 4 Mlyv Wayno Line	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03C1558023	Due Date:			
Project Location:		TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Connor Whitman	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
PO #:		Samples Received In tact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	NW2007
SAMPLE RECEIPT		Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:	-0.0
		Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:	5.8
		Total Containers:		Corrected Temperature:	5.10

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments
5506	S	2/27/23	12:25	.5	G	1	CHLORIDES (EPA: 300.0)	
5507	S		12:30	.5	G	1	TPH (8015)	
5508	S		12:35	.5	G	1	BTEX (8021)	
5509	S		12:45	.5	G	1		
5510	S		12:55	.5	G	1		
5511	S		1:00	.5	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 SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metals(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	2-28-23 1357			
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5					

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4209-1

SDG Number: 03C1558023

Login Number: 4209

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4209-1

SDG Number: 03C1558023

Login Number: 4209

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 03/02/23 12:31 PM

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

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Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
 Ensolum
 601 N. Marienfeld St.
 Suite 400
 Midland, Texas 79701
 Generated 3/6/2023 1:03:51 PM

JOB DESCRIPTION

Row 4 Muy Wayno Line
 SDG NUMBER 03C1558023

JOB NUMBER

890-4210-1

Eurofins Carlsbad
 1089 N Canal St.
 Carlsbad NM 88220

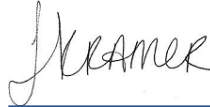


Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/6/2023 1:03:51 PM

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

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Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Laboratory Job ID: 890-4210-1
SDG: 03C1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Qualifiers

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.
α	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: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Job ID: 890-4210-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4210-1

Receipt

The samples were received on 2/28/2023 1:57 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH05 (890-4210-1) and PH05A (890-4210-2).

HPLC/IC

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

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Client Sample Results

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Client Sample ID: PH05

Lab Sample ID: 890-4210-1

Date Collected: 02/28/23 09:25
Date Received: 02/28/23 13:57
Sample Depth: 0.5

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	117		4.95	mg/Kg			03/05/23 21:16	1

Client Sample ID: PH05A

Lab Sample ID: 890-4210-2

Date Collected: 02/28/23 09:35
Date Received: 02/28/23 13:57
Sample Depth: 2

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	403		4.99	mg/Kg			03/05/23 21:21	1

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QC Sample Results

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
 SDG: 03C1558023

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47779/1-A
 Matrix: Solid
 Analysis Batch: 47847

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			03/05/23 19:00	1

Lab Sample ID: LCS 880-47779/2-A
 Matrix: Solid
 Analysis Batch: 47847

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	268.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-47779/3-A
 Matrix: Solid
 Analysis Batch: 47847

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	268.7		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-4208-A-1-B MS
 Matrix: Solid
 Analysis Batch: 47847

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	257		249	501.2		mg/Kg		98	90 - 110

Lab Sample ID: 890-4208-A-1-C MSD
 Matrix: Solid
 Analysis Batch: 47847

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	257		249	501.0		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
 Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
 SDG: 03C1558023

HPLC/IC

Leach Batch: 47779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4210-1	PH05	Soluble	Solid	DI Leach	
890-4210-2	PH05A	Soluble	Solid	DI Leach	
MB 880-47779/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4208-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4208-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4210-1	PH05	Soluble	Solid	300.0	47779
890-4210-2	PH05A	Soluble	Solid	300.0	47779
MB 880-47779/1-A	Method Blank	Soluble	Solid	300.0	47779
LCS 880-47779/2-A	Lab Control Sample	Soluble	Solid	300.0	47779
LCSD 880-47779/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47779
890-4208-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	47779
890-4208-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47779

Lab Chronicle

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Client Sample ID: PH05

Lab Sample ID: 890-4210-1

Date Collected: 02/28/23 09:25

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 21:16	CH	EET MID

Client Sample ID: PH05A

Lab Sample ID: 890-4210-2

Date Collected: 02/28/23 09:35

Matrix: Solid

Date Received: 02/28/23 13:57

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	47779	03/03/23 16:05	CH	EET MID
Soluble	Analysis	300.0		1			47847	03/05/23 21:21	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: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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Method Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency

Laboratory References:

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

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Sample Summary

Client: Ensolum
Project/Site: Row 4 Muy Wayno Line

Job ID: 890-4210-1
SDG: 03C1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4210-1	PH05	Solid	02/28/23 09:25	02/28/23 13:57	0.5
890-4210-2	PH05A	Solid	02/28/23 09:35	02/28/23 13:57	2

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4210-1

SDG Number: 03C1558023

Login Number: 4210

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4210-1

SDG Number: 03C1558023

Login Number: 4210

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 03/02/23 12:31 PM

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

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APPENDIX F

Remediation Work Plan; dated June 16, 2022



June 16, 2022

District II
New Mexico Oil Conservation Division
811 S. First St.
Artesia, New Mexico 88210

**Re: Remediation Work Plan
ROW 4 Muy Wayno Pipeline
Incident Number NAPP2209039217
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared the following Remediation Work Plan (Work Plan) to document the site assessment activities completed to date and propose a work plan to address the impacted soil identified at the Right-of-Way (ROW) 4 along the Muy Wayno Pipeline (Site), resulting from a release of produced water. The following Work Plan proposes to advance a soil boring to investigate depth to water to confirm the Closure Criteria at the Site and excavate the impacted soil.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit H, Section 7, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.14650° N, 103.91240° W) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On March 19, 2022, corrosion of a pipeline resulted in the release of approximately 284.67 barrels (bbls) of produced water into the surrounding pipeline ROW. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 260 bbls of released produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on March 19, 2022, and submitted a Release Notification Form C-141 (Form C-141) on March 31, 2022. The release was assigned Incident Number NAPP2209039217.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

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

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320857103553301, located

approximately 0.84 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 264 feet bgs and a total depth of 385 feet bgs. Ground surface elevation at the groundwater well location is 3,169 feet above mean sea level (amsl), which is approximately 18 feet lower in elevation than the Site. All wells used for depth to water determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 573 feet northeast 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

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top four feet of the ROW area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT AND DELINEATION ACTIVITIES

On April 18, 2022, Ensolum personnel completed a Site visit to evaluate the release extent based on information provided on the Form C-141 and visual observations. Five preliminary assessment soil samples (SS01 through SS05) were collected within the release extent from a depth of approximately 0.5 feet bgs. The preliminary soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

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

Laboratory analytical results for preliminary soil samples SS01 through SS05 indicated that chloride concentrations exceeded the Closure Criteria and/or the reclamation standards. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, delineation activities were warranted.

On June 3, 2022, delineation activities were conducted at the Site to assess the vertical extent of impacted soil. Potholes PH01 through PH04 were advanced via track mounted backhoe within the release extent at the locations of preliminary soil samples SS01, SS03, SS04, and SS05. The potholes were advanced to a depth of 4 feet bgs. Discrete delineation soil samples were collected from each pothole at depths ranging from 1-foot to 4 feet bgs. Soil from the potholes was field screened for VOCs and chloride using a PID and chloride Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the potholes were documented on lithologic/soil sampling logs, which are included as Appendix C. The delineation soil samples were handled and analyzed as described above. The pothole locations are presented on Figure 3.

LABORATORY ANALYTICAL RESULTS

Benzene, BTEX, and TPH concentrations were below laboratory detection limits in all delineation soil samples collected at the Site. No hydrocarbon impacted soil was identified as a result of the release.

Laboratory analytical results for the delineation samples collected from pothole PH02 indicated that chloride concentrations were compliant with Site Closure Criteria and reclamation standards. Laboratory analytical results for the delineation samples collected at depths of 1-foot or 2 feet bgs from potholes PH01, PH03, and PH04, indicated that chloride concentrations exceeded the reclamation standard. Subsequent delineation samples from potholes PH01, PH03, and PH04, collected at 4 feet bgs, were compliant with Site Closure Criteria. Based on the laboratory analytical results, the vertical extent of the impacted soil was successfully defined. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

The results from the delineation soil sampling suggest soil containing elevated chloride concentrations is present across the 10,000 square foot release area and extends from the ground surface to an approximate depth of 4 feet bgs.

XTO proposes to complete the following remediation activities:

- In order to confirm depth to groundwater is greater than 100 feet bgs at the Site and confirm the applied Closure Criteria, XTO proposes to advance a soil boring until groundwater is encountered or to maximum depth of 110 feet bgs. The soil boring will be located within 0.5 miles of the Site and a field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for the potential slow infill of groundwater. Following the 72-hour waiting period, depth to groundwater will be measured or the geologist will confirm the boring is dry. The soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the subsequent Closure Report.
- Following confirmation of depth to groundwater, XTO will proceed with excavation of the chloride-impacted soil to below reclamation standards in the top 4 feet and to below the established Site Closure Criteria at depths of 4 feet bgs or greater. Based on the delineation soil sample analytical results and area of the release extent, an estimated 1,400 cubic yards of impacted soil will be excavated and disposed of at a licensed disposal facility. The estimated excavation extent is shown on Figure 4.
- Due to the estimated 10,000 square foot size of the excavation, XTO requests a variance for frequency of excavation confirmation samples. XTO proposes the frequency of confirmation sampling for the excavation floor to be decreased from every 200 square feet (approximately 50 samples) to every 500 square feet (approximately 20 samples). Each 5-point composite floor

sample will represent a 500 square foot area. Sidewall samples will be collected at a frequency of every 200 square feet. The soil samples will be handled as described above and analyzed for chloride at Eurofins in Carlsbad, New Mexico. The soil samples will be analyzed for chloride only since no BTEX or TPH concentrations were detected in any of the samples collected at the Site. The source of the release was produced water and no hydrocarbon constituents were identified in source samples; therefore, chloride is the established contaminant of concern.

- Upon completion of excavation activities, the excavation will be backfilled and recontoured to match pre-existing conditions. The disturbed area will be re-seeded with an approved BLM seed mixture.

XTO will complete the excavation activities within 90 days of the date of approval of this Work Plan by the NMOCD. The depth to water soil boring will be completed as soon as possible following approval from the surface landowner, receipt of the NMOSE drilling permit, and scheduling with a driller.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Aimee Cole
Senior Managing Scientist

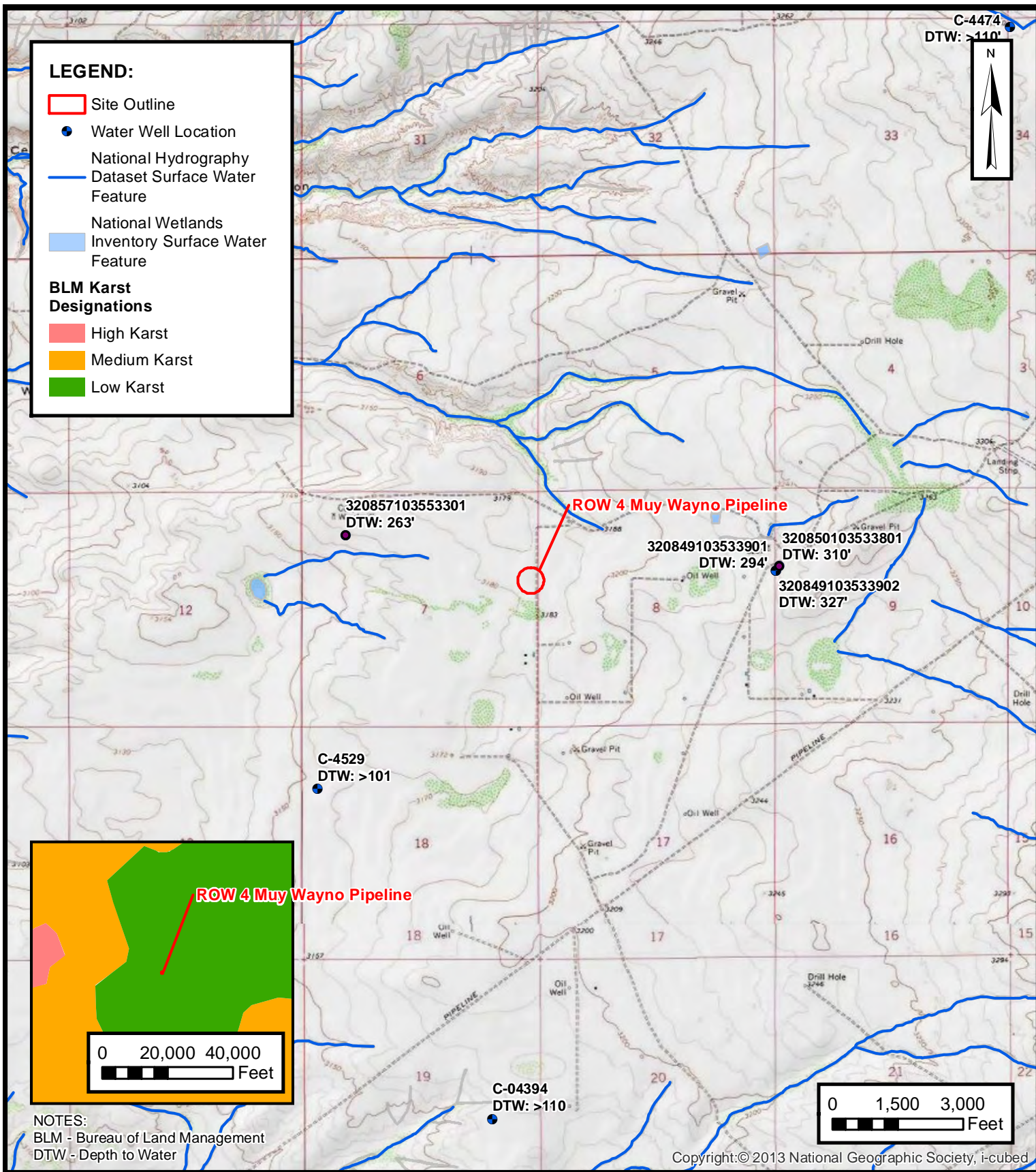
cc: Adrian Baker, XTO
New Mexico State Land Office

Appendices:

- Figure 1 Site Location Map
- Figure 2 Preliminary Soil Sample Locations
- Figure 3 Delineation Soil Sample Locations
- Figure 4 Proposed Excavation Extent
- Table 1 Soil Sample Analytical Results
- Appendix A Referenced Well Records
- Appendix B Photographic Log
- Appendix C Lithologic / Soil Sampling Logs
- Appendix D Laboratory Analytical Results
- Appendix E NMOCD Notifications



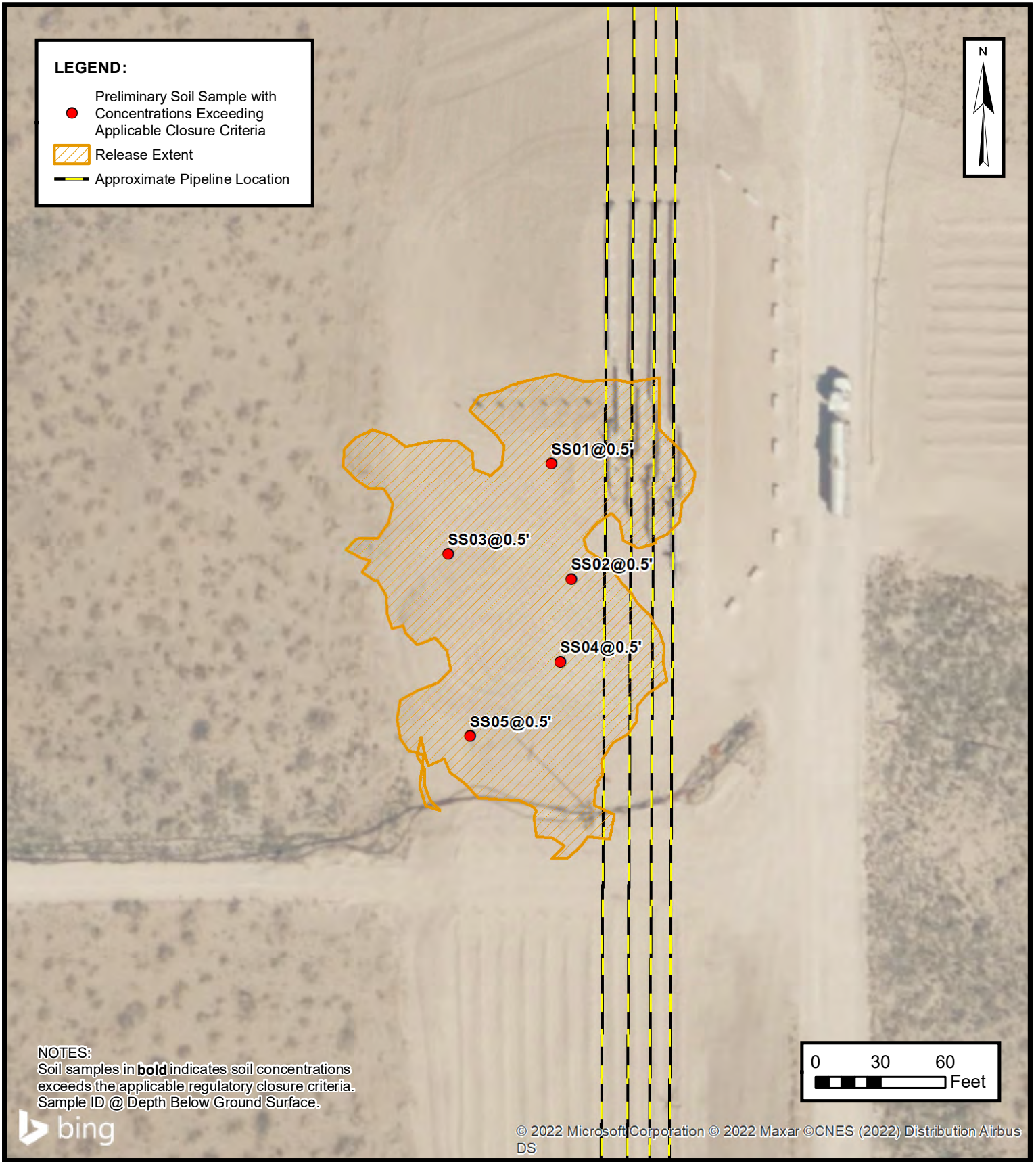
FIGURES



SITE RECEPTOR MAP

XTO ENERGY, INC
 ROW 4 MUY WAYNO PIPELINE
 NAPP2209039217
 Unit H, Sec 07, T25S, R30E
 Eddy County, New Mexico

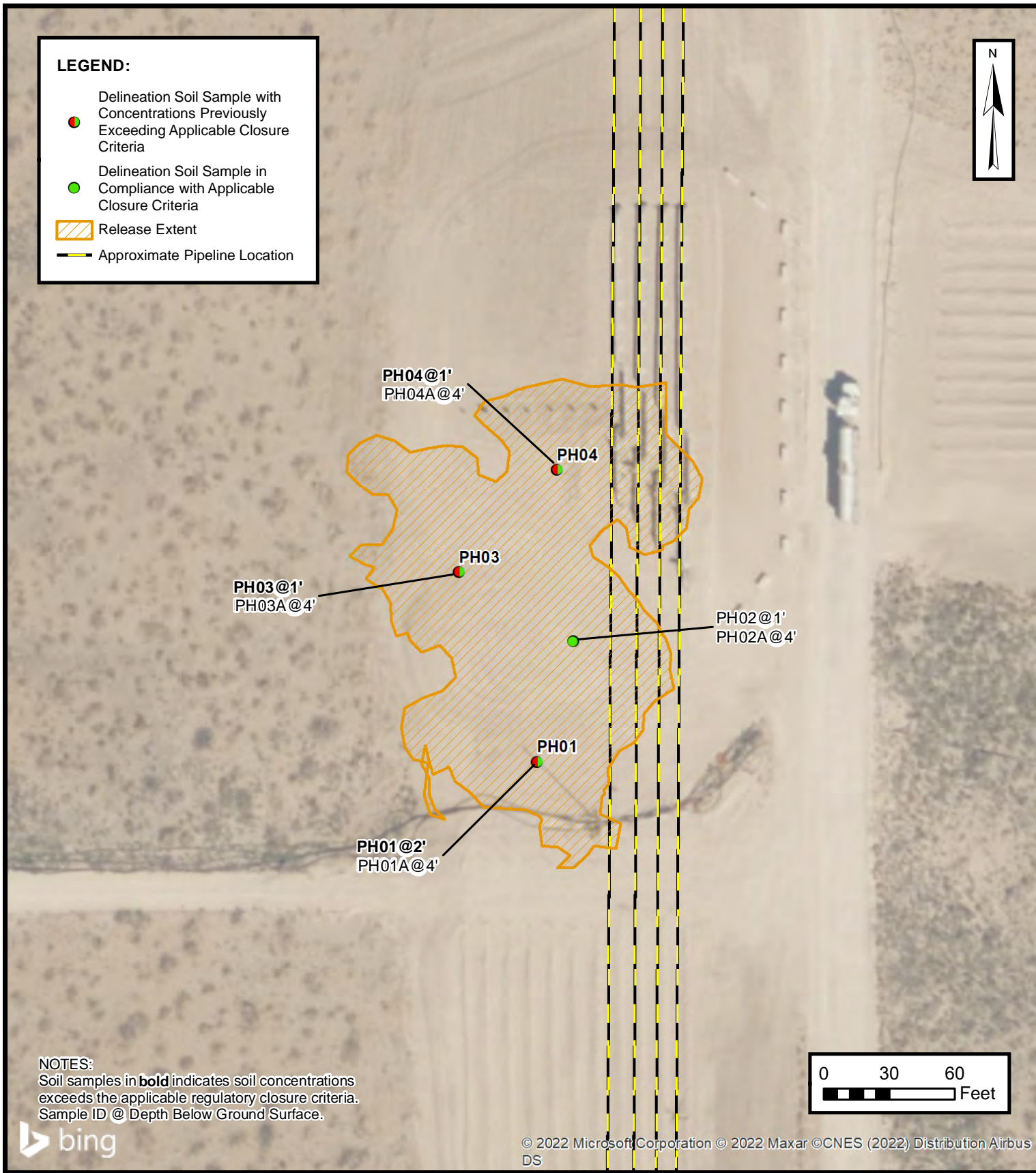
FIGURE
1



PRELIMINARY SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
 ROW 4 MUY WAYNO PIPELINE
 NAPP2209039217
 Unit H, Sec 07, T25S, R30E
 Eddy County, New Mexico

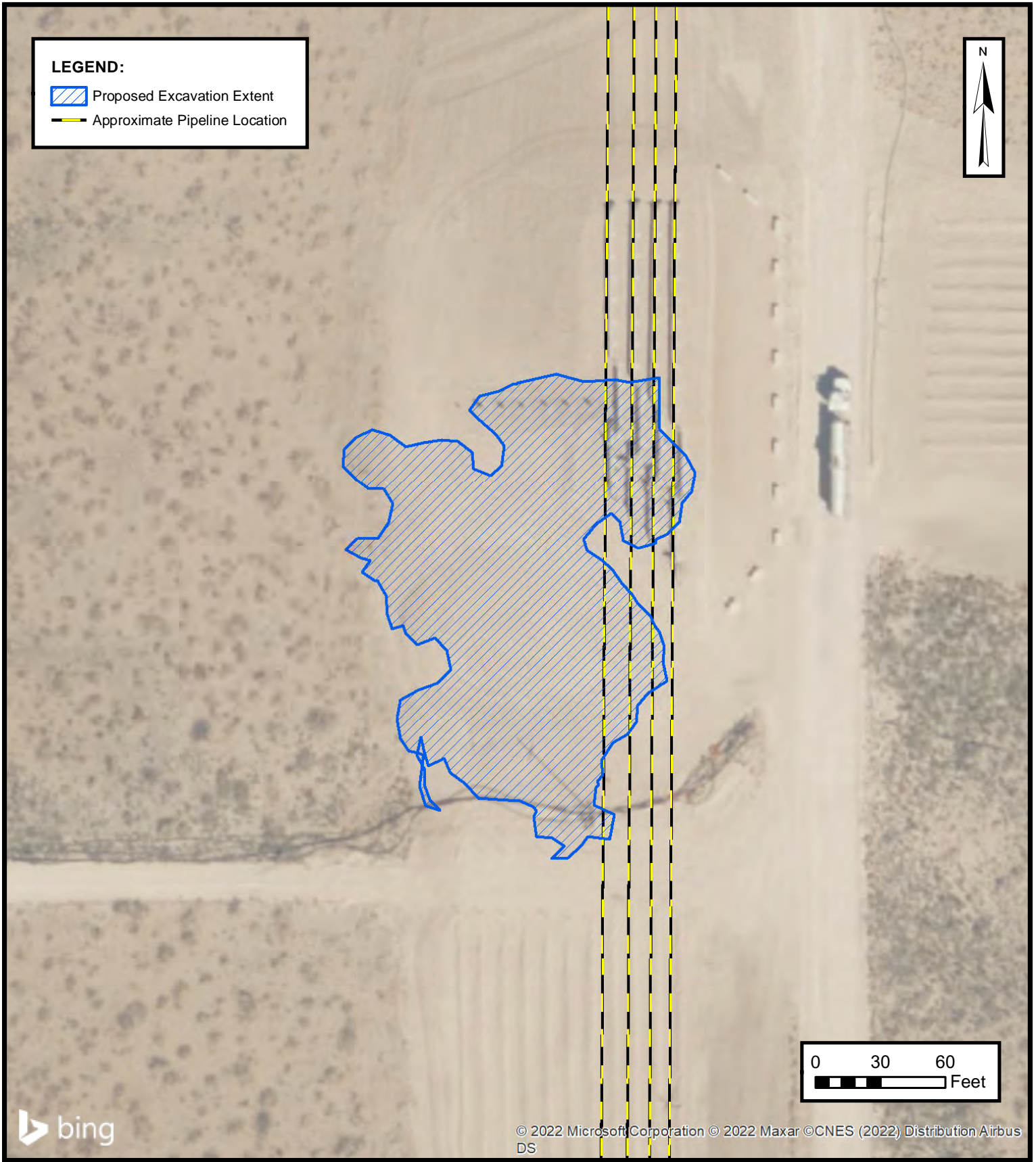
FIGURE
2



DELINEATION SOIL SAMPLE LOCATIONS

XTO ENERGY, INC
ROW 4 MUY WAYNO PIPELINE
NAPP2209039217
Unit H, Sec 07, T25S, R30E
Eddy County, New Mexico

FIGURE
3



PROPOSED EXCAVATION EXTENT

XTO ENERGY, INC
ROW 4 MUY WAYNO PIPELINE
NAPP2209039217
Unit H, Sec 07, T25S, R30E
Eddy County, New Mexico

FIGURE
4



TABLES



**TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
ROW 4 Muy Wayno Pipeline
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
Preliminary Assessment Soil Samples										
SS01	04/18/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	28,900*
SS02	04/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	9,390*
SS03	04/18/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	9,060*
SS04	04/18/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	13,000*
SS05	04/18/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	11,500*
Delineation Soil Samples										
PH01	06/03/2022	2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	5,340*
PH01A	06/03/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,670
PH02	06/03/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	478*
PH02A	06/03/2022	4	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	97.1
PH03	06/03/2022	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	3,020*
PH03A	06/03/2022	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	153
PH04	06/03/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	1,860*
PH04A	06/03/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	35.3

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
 * indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard for chloride in the top 4 feet is 600 mg/kg



APPENDIX A

Referenced Well Records



USGS Home
 Contact USGS
 Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater Geographic Area: United States

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.
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Groundwater levels for the Nation

i Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs
 site_no list =

- 320857103553301

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320857103553301 25S.30E.07.112331

Eddy County, New Mexico

Latitude 32°08'57", Longitude 103°55'33" NAD27

Land-surface elevation 3,169 feet above NAVD88

The depth of the well is 385 feet below land surface.

This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1959-02-05			D 62610		2903.75	NGVD29	1	Z		
1959-02-05			D 62611		2905.37	NAVD88	1	Z		
1959-02-05			D 72019	263.63			1	Z		
1959-03-07			D 62610		2904.08	NGVD29	1	Z		
1959-03-07			D 62611		2905.70	NAVD88	1	Z		
1959-03-07			D 72019	263.30			1	Z		
1987-10-20			D 62610		2903.13	NGVD29	1	Z		
1987-10-20			D 62611		2904.75	NAVD88	1	Z		
1987-10-20			D 72019	264.25			1	Z		
1992-11-06			D 62610		2904.38	NGVD29	1	S		
1992-11-06			D 62611		2906.00	NAVD88	1	S		
1992-11-06			D 72019	263.00			1	S		
1998-01-28			D 62610		2903.26	NGVD29	1	V		
1998-01-28			D 62611		2904.88	NAVD88	1	V		
1998-01-28			D 72019	264.12			1	V		

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	V	Calibrated electric-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

- [Questions about sites/data?](#)
- [Feedback on this web site](#)
- [Automated retrievals](#)
- [Help](#)
- [Data Tips](#)
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[U.S. Department of the Interior](#) |
 [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2022-06-15 12:17:12 EDT

0.29 0.24 nadww02



USGS Home
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National Water Information System: Web Interface

USGS Water Resources

Data Category: Geographic Area:

Click to hide News Bulletins

- Explore the *NEW* [USGS National Water Dashboard](#) interactive map to access real-time water data from over 13,500 stations nationwide.
- [Full News](#)

USGS 320857103553301 25S.30E.07.112331

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°08'57", Longitude 103°55'33" NAD27
 Eddy County, New Mexico , Hydrologic Unit 13060011
 Well depth: 385 feet
 Land surface altitude: 3,169 feet above NAVD88.
 Well completed in "Pecos River Basin alluvial aquifer" (N100PCSRVR) national aquifer.
 Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-05	1998-01-28	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
 Email questions about this site to [New Mexico Water Science Center Water-Data Inquiries](#)

-
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Title: NWIS Site Information for USA: Site Inventory

**URL: [https://waterdata.usgs.gov/nwis/inventory?
agency_code=USGS&site_no=320857103553301](https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=320857103553301)**




Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2022-06-15 12:16:55 EDT

0.28 0.25 caww01



Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)					(NAD83 UTM in meters)		
C 02459		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
		4	4	1	02	25S	29E	598422	3558663* 

Driller License:	1184	Driller Company:	WEST TEXAS WATER WELL SERVICE	
Driller Name:	COLLIS, ROBERT E. (LD)			
Drill Start Date:	07/27/1995	Drill Finish Date:	07/27/1995	Plug Date: 07/27/1995
Log File Date:	08/13/1996	PCW Rcv Date:		Source:
Pump Type:		Pipe Discharge Size:		Estimated Yield:
Casing Size:		Depth Well:	150 feet	Depth Water:

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/19/22 11:39 AM

POINT OF DIVERSION SUMMARY



APPENDIX B

Photographic Log



Photographic Log
XTO Energy, Inc.
ROW 4 Muy Wayno Pipeline
Incident Number NAPP2209039217



Photograph 1
Date: April 18, 2022
Description: Photo of release area during initial visit.

Photograph 2
Date: April 18, 2022
Description: Photo of release area during initial visit.




Photograph 3
Date: June 3, 2022
Description: Photo of delineation activities.


Photograph 4
Date: June 3, 2022
Description: Photo of delineation activities.





APPENDIX C

Lithologic / Soil Sampling Logs

		Sample Name: PH01		Date: 06/03/2022				
		Site Name: ROW 4 Muy Wayno Pipeline						
		Incident Number: NAPP2209039217						
		Job Number: 03E1558023						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: CS		Method: Backhoe		
Coordinates:				Hole Diameter: NA		Total Depth: 4'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
M	5,964	1.5	Y			0	SW-SM	Brown, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted, noncohesive.
M	6,462	1.2	Y			2		
M	1,120	0.4	N			4		
TD @ 4 feet bgs								

		Sample Name: PH02		Date: 06/03/2022				
		Site Name: ROW 4 Muy Wayno Pipeline						
		Incident Number: NAPP2209039217						
		Job Number: 03E1558023						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: CS		Method: Backhoe		
Coordinates:				Hole Diameter: NA		Total Depth: 4'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
M	3,000	1.2	Y			0	SW-SM	Brown, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted, noncohesive.
M	1,864	0.9	Y			2		
M	<168	0.9	N			4		
TD @ 4 feet bgs								

		Sample Name: PH03		Date: 06/03/2022				
		Site Name: ROW 4 Muy Wayno Pipeline						
		Incident Number: NAPP2209039217						
		Job Number: 03E1558023						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: CS		Method: Backhoe		
Coordinates:				Hole Diameter: NA		Total Depth: 4'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
M	3,466	0.6	Y			0	SW-SM	Brown, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted, noncohesive.
M	324.8	1.4	Y			2		
M	<168	0.6	N			4		
TD @ 4 feet bgs								

		Sample Name: PH04		Date: 06/03/2022				
		Site Name: ROW 4 Muy Wayno Pipeline						
		Incident Number: NAPP2209039217						
		Job Number: 03E1558023						
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: CS		Method: Backhoe		
Coordinates:				Hole Diameter: NA		Total Depth: 4'		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 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
M	1,624	2.0	Y			0	SW-SM	Brown, abundant silt, fine grain, dark brown, strong odor, staining, moist, well sorted, noncohesive.
M	<168	1.1	Y			2		
M	<168	0.5	N			4		
TD @ 4 feet bgs								



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2207-1
Laboratory Sample Delivery Group: 03E1558023
Client Project/Site: ROW 4 Muy Wayno

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

Attn: Kalei Jennings

Authorized for release by:
4/28/2022 11:53:48 AM

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

LINKS

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results through
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Have a Question?



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www.eurofinsus.com/Env

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.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Laboratory Job ID: 890-2207-1
SDG: 03E1558023

- 1
- 2
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- 10
- 11
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- 13
- 14

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Definitions/Glossary

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Job ID: 890-2207-1

Laboratory: Eurofins Carlsbad**Narrative**

Job Narrative
890-2207-1

Receipt

The samples were received on 4/19/2022 4:26 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-23940 and analytical batch 880-23883 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS01 (890-2207-1) and (890-2207-A-1-F MSD). Evidence of matrix interferences is not obvious.

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

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: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Client Sample ID: SS01

Lab Sample ID: 890-2207-1

Date Collected: 04/18/22 14:05

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		04/21/22 11:35	04/21/22 22:38	1
Toluene	<0.00201	U	0.00201	mg/Kg		04/21/22 11:35	04/21/22 22:38	1
Ethylbenzene	<0.00201	U F2 F1	0.00201	mg/Kg		04/21/22 11:35	04/21/22 22:38	1
m-Xylene & p-Xylene	<0.00402	U F1	0.00402	mg/Kg		04/21/22 11:35	04/21/22 22:38	1
o-Xylene	<0.00201	U F1	0.00201	mg/Kg		04/21/22 11:35	04/21/22 22:38	1
Xylenes, Total	<0.00402	U F1	0.00402	mg/Kg		04/21/22 11:35	04/21/22 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	296	S1+	70 - 130	04/21/22 11:35	04/21/22 22:38	1
1,4-Difluorobenzene (Surr)	277	S1+	70 - 130	04/21/22 11:35	04/21/22 22:38	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			04/22/22 11:18	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			04/25/22 09:06	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		04/21/22 13:45	04/23/22 00:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 00:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 00:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	04/21/22 13:45	04/23/22 00:06	1
o-Terphenyl	135	S1+	70 - 130	04/21/22 13:45	04/23/22 00:06	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28900		252	mg/Kg			04/27/22 17:37	50

Client Sample ID: SS02

Lab Sample ID: 890-2207-2

Date Collected: 04/18/22 14:10

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		04/21/22 11:35	04/21/22 22:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:59	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		04/21/22 11:35	04/21/22 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	04/21/22 11:35	04/21/22 22:59	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

Client Sample ID: SS02

Lab Sample ID: 890-2207-2

Date Collected: 04/18/22 14:10

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	04/21/22 11:35	04/21/22 22:59	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			04/22/22 11:18	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			04/25/22 09:06	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		04/21/22 13:45	04/23/22 01:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130	04/21/22 13:45	04/23/22 01:11	1
o-Terphenyl	121		70 - 130	04/21/22 13:45	04/23/22 01:11	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9390		99.8	mg/Kg			04/27/22 17:46	20

Client Sample ID: SS03

Lab Sample ID: 890-2207-3

Date Collected: 04/18/22 14:15

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		04/21/22 11:35	04/21/22 23:19	1
Toluene	<0.00199	U	0.00199	mg/Kg		04/21/22 11:35	04/21/22 23:19	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		04/21/22 11:35	04/21/22 23:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		04/21/22 11:35	04/21/22 23:19	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		04/21/22 11:35	04/21/22 23:19	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		04/21/22 11:35	04/21/22 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130	04/21/22 11:35	04/21/22 23:19	1
1,4-Difluorobenzene (Surr)	97		70 - 130	04/21/22 11:35	04/21/22 23:19	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			04/22/22 11:18	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			04/25/22 09:06	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

Client Sample ID: SS03

Lab Sample ID: 890-2207-3

Date Collected: 04/18/22 14:15

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:32	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:32	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130			04/21/22 13:45	04/23/22 01:32	1
o-Terphenyl	122		70 - 130			04/21/22 13:45	04/23/22 01:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9060		49.8	mg/Kg			04/27/22 18:14	10

Client Sample ID: SS04

Lab Sample ID: 890-2207-4

Date Collected: 04/18/22 14:20

Matrix: Solid

Date Received: 04/19/22 16:26

Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		04/21/22 11:35	04/21/22 23:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		70 - 130			04/21/22 11:35	04/21/22 23:40	1
1,4-Difluorobenzene (Surr)	98		70 - 130			04/21/22 11:35	04/21/22 23:40	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			04/22/22 11:18	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			04/25/22 09:06	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		04/21/22 13:45	04/23/22 01:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		04/21/22 13:45	04/23/22 01:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130			04/21/22 13:45	04/23/22 01:54	1
o-Terphenyl	120		70 - 130			04/21/22 13:45	04/23/22 01:54	1

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Client Sample Results

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Client Sample ID: SS04

Lab Sample ID: 890-2207-4

Date Collected: 04/18/22 14:20
Date Received: 04/19/22 16:26
Sample Depth: 0.5

Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13000		99.4	mg/Kg			04/27/22 18:23	20

Client Sample ID: SS05

Lab Sample ID: 890-2207-5

Date Collected: 04/18/22 14:25
Date Received: 04/19/22 16:26
Sample Depth: 0.5

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		04/21/22 11:35	04/22/22 00:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/22/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/22/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/21/22 11:35	04/22/22 00:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/22/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		04/21/22 11:35	04/22/22 00:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			04/21/22 11:35	04/22/22 00:00	1
1,4-Difluorobenzene (Surr)	98		70 - 130			04/21/22 11:35	04/22/22 00:00	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			04/22/22 11:18	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			04/25/22 09:06	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		04/21/22 13:45	04/23/22 02:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/21/22 13:45	04/23/22 02:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/21/22 13:45	04/23/22 02:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130			04/21/22 13:45	04/23/22 02:15	1
o-Terphenyl	117		70 - 130			04/21/22 13:45	04/23/22 02:15	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11500		99.6	mg/Kg			04/27/22 18:32	20

Surrogate Summary

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

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)
890-2207-1	SS01	296 S1+	277 S1+
890-2207-1 MS	SS01	106	100
890-2207-1 MSD	SS01	107	102
890-2207-2	SS02	108	99
890-2207-3	SS03	104	97
890-2207-4	SS04	106	98
890-2207-5	SS05	105	98
LCS 880-23940/1-A	Lab Control Sample	106	103
LCSD 880-23940/2-A	Lab Control Sample Dup	104	101
MB 880-23898/5-A	Method Blank	101	97
MB 880-23940/5-A	Method Blank	99	91

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2207-1	SS01	124	135 S1+
890-2207-1 MS	SS01	110	108
890-2207-1 MSD	SS01	133 S1+	128
890-2207-2	SS02	113	121
890-2207-3	SS03	115	122
890-2207-4	SS04	113	120
890-2207-5	SS05	110	117
LCS 880-23941/2-A	Lab Control Sample	115	109
LCSD 880-23941/3-A	Lab Control Sample Dup	116	113
MB 880-23941/1-A	Method Blank	113	125

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-23898/5-A
Matrix: Solid
Analysis Batch: 23883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23898

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/21/22 09:32	04/21/22 11:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/21/22 09:32	04/21/22 11:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/21/22 09:32	04/21/22 11:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/21/22 09:32	04/21/22 11:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/21/22 09:32	04/21/22 11:41	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		04/21/22 09:32	04/21/22 11:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130	04/21/22 09:32	04/21/22 11:41	1
1,4-Difluorobenzene (Surr)	97		70 - 130	04/21/22 09:32	04/21/22 11:41	1

Lab Sample ID: MB 880-23940/5-A
Matrix: Solid
Analysis Batch: 23883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23940

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:17	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:17	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		04/21/22 11:35	04/21/22 22:17	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/21/22 11:35	04/21/22 22:17	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		04/21/22 11:35	04/21/22 22:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	04/21/22 11:35	04/21/22 22:17	1
1,4-Difluorobenzene (Surr)	91		70 - 130	04/21/22 11:35	04/21/22 22:17	1

Lab Sample ID: LCS 880-23940/1-A
Matrix: Solid
Analysis Batch: 23883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1005		mg/Kg		100	70 - 130
Toluene	0.100	0.09886		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.09908		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.2021		mg/Kg		101	70 - 130
o-Xylene	0.100	0.1023		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-23940/2-A
Matrix: Solid
Analysis Batch: 23883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23940

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09617		mg/Kg		96	70 - 130	4	35

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QC Sample Results

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

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

Lab Sample ID: LCSD 880-23940/2-A
 Matrix: Solid
 Analysis Batch: 23883

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 23940

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Toluene	0.100	0.09442		mg/Kg		94	70 - 130	5	35	
Ethylbenzene	0.100	0.09448		mg/Kg		94	70 - 130	5	35	
m-Xylene & p-Xylene	0.200	0.1923		mg/Kg		96	70 - 130	5	35	
o-Xylene	0.100	0.09722		mg/Kg		97	70 - 130	5	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	104		70 - 130							
1,4-Difluorobenzene (Surr)	101		70 - 130							

Lab Sample ID: 890-2207-1 MS
 Matrix: Solid
 Analysis Batch: 23883

Client Sample ID: SS01
 Prep Type: Total/NA
 Prep Batch: 23940

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U	0.101	0.1025		mg/Kg		102	70 - 130			
Toluene	<0.00201	U	0.101	0.09214		mg/Kg		91	70 - 130			
Ethylbenzene	<0.00201	U F2 F1	0.101	0.07746		mg/Kg		77	70 - 130			
m-Xylene & p-Xylene	<0.00402	U F1	0.202	0.1606		mg/Kg		80	70 - 130			
o-Xylene	<0.00201	U F1	0.101	0.07856		mg/Kg		78	70 - 130			
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	106		70 - 130									
1,4-Difluorobenzene (Surr)	100		70 - 130									

Lab Sample ID: 890-2207-1 MSD
 Matrix: Solid
 Analysis Batch: 23883

Client Sample ID: SS01
 Prep Type: Total/NA
 Prep Batch: 23940

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U	0.0994	0.09413		mg/Kg		95	70 - 130	9	35	
Toluene	<0.00201	U	0.0994	0.08168		mg/Kg		82	70 - 130	12	35	
Ethylbenzene	<0.00201	U F2 F1	0.0994	0.03017	F2 F1	mg/Kg		30	70 - 130	88	35	
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.1354	F1	mg/Kg		68	70 - 130	17	35	
o-Xylene	<0.00201	U F1	0.0994	0.06657	F1	mg/Kg		67	70 - 130	17	35	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	107		70 - 130									
1,4-Difluorobenzene (Surr)	102		70 - 130									

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

Lab Sample ID: MB 880-23941/1-A
 Matrix: Solid
 Analysis Batch: 24009

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 23941

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		04/21/22 13:45	04/22/22 23:02	1

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

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

Lab Sample ID: MB 880-23941/1-A
Matrix: Solid
Analysis Batch: 24009

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 23941

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/21/22 13:45	04/22/22 23:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/21/22 13:45	04/22/22 23:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	113		70 - 130	04/21/22 13:45	04/22/22 23:02	1
o-Terphenyl	125		70 - 130	04/21/22 13:45	04/22/22 23:02	1

Lab Sample ID: LCS 880-23941/2-A
Matrix: Solid
Analysis Batch: 24009

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 23941

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	1000	921.4		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1216		mg/Kg		122	70 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	115		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-23941/3-A
Matrix: Solid
Analysis Batch: 24009

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 23941

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	1000	953.6		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	1000	1108		mg/Kg		111	70 - 130	9	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
1-Chlorooctane	116		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 890-2207-1 MS
Matrix: Solid
Analysis Batch: 24009

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 23941

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	947.1		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	961.1		mg/Kg		96	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1-Chlorooctane	110		70 - 130
o-Terphenyl	108		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

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

Lab Sample ID: 890-2207-1 MSD
Matrix: Solid
Analysis Batch: 24009

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 23941

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1157		mg/Kg		114	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1177		mg/Kg		118	70 - 130	20	20
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
1-Chlorooctane	133	S1+		70 - 130							
o-Terphenyl	128			70 - 130							

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-23904/1-A
Matrix: Solid
Analysis Batch: 24341

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			04/27/22 14:26	1

Lab Sample ID: LCS 880-23904/2-A
Matrix: Solid
Analysis Batch: 24341

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	271.1		mg/Kg		108	90 - 110

Lab Sample ID: LCSD 880-23904/3-A
Matrix: Solid
Analysis Batch: 24341

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	258.9		mg/Kg		104	90 - 110	5	20

Lab Sample ID: 880-13933-A-5-C MS
Matrix: Solid
Analysis Batch: 24341

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	376		250	603.5		mg/Kg		91	90 - 110

Lab Sample ID: 880-13933-A-5-D MSD
Matrix: Solid
Analysis Batch: 24341

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	376		250	617.5		mg/Kg		97	90 - 110	2	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

GC VOA

Analysis Batch: 23883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	8021B	23940
890-2207-2	SS02	Total/NA	Solid	8021B	23940
890-2207-3	SS03	Total/NA	Solid	8021B	23940
890-2207-4	SS04	Total/NA	Solid	8021B	23940
890-2207-5	SS05	Total/NA	Solid	8021B	23940
MB 880-23898/5-A	Method Blank	Total/NA	Solid	8021B	23898
MB 880-23940/5-A	Method Blank	Total/NA	Solid	8021B	23940
LCS 880-23940/1-A	Lab Control Sample	Total/NA	Solid	8021B	23940
LCSD 880-23940/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	23940
890-2207-1 MS	SS01	Total/NA	Solid	8021B	23940
890-2207-1 MSD	SS01	Total/NA	Solid	8021B	23940

Prep Batch: 23898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-23898/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 23940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	5035	
890-2207-2	SS02	Total/NA	Solid	5035	
890-2207-3	SS03	Total/NA	Solid	5035	
890-2207-4	SS04	Total/NA	Solid	5035	
890-2207-5	SS05	Total/NA	Solid	5035	
MB 880-23940/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-23940/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-23940/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2207-1 MS	SS01	Total/NA	Solid	5035	
890-2207-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 24031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	Total BTEX	
890-2207-2	SS02	Total/NA	Solid	Total BTEX	
890-2207-3	SS03	Total/NA	Solid	Total BTEX	
890-2207-4	SS04	Total/NA	Solid	Total BTEX	
890-2207-5	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 23941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	8015NM Prep	
890-2207-2	SS02	Total/NA	Solid	8015NM Prep	
890-2207-3	SS03	Total/NA	Solid	8015NM Prep	
890-2207-4	SS04	Total/NA	Solid	8015NM Prep	
890-2207-5	SS05	Total/NA	Solid	8015NM Prep	
MB 880-23941/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-23941/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-23941/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2207-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-2207-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

GC Semi VOA

Analysis Batch: 24009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	8015B NM	23941
890-2207-2	SS02	Total/NA	Solid	8015B NM	23941
890-2207-3	SS03	Total/NA	Solid	8015B NM	23941
890-2207-4	SS04	Total/NA	Solid	8015B NM	23941
890-2207-5	SS05	Total/NA	Solid	8015B NM	23941
MB 880-23941/1-A	Method Blank	Total/NA	Solid	8015B NM	23941
LCS 880-23941/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	23941
LCSD 880-23941/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	23941
890-2207-1 MS	SS01	Total/NA	Solid	8015B NM	23941
890-2207-1 MSD	SS01	Total/NA	Solid	8015B NM	23941

Analysis Batch: 24123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Total/NA	Solid	8015 NM	
890-2207-2	SS02	Total/NA	Solid	8015 NM	
890-2207-3	SS03	Total/NA	Solid	8015 NM	
890-2207-4	SS04	Total/NA	Solid	8015 NM	
890-2207-5	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 23904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Soluble	Solid	DI Leach	
890-2207-2	SS02	Soluble	Solid	DI Leach	
890-2207-3	SS03	Soluble	Solid	DI Leach	
890-2207-4	SS04	Soluble	Solid	DI Leach	
890-2207-5	SS05	Soluble	Solid	DI Leach	
MB 880-23904/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23904/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23904/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13933-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-13933-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 24341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2207-1	SS01	Soluble	Solid	300.0	23904
890-2207-2	SS02	Soluble	Solid	300.0	23904
890-2207-3	SS03	Soluble	Solid	300.0	23904
890-2207-4	SS04	Soluble	Solid	300.0	23904
890-2207-5	SS05	Soluble	Solid	300.0	23904
MB 880-23904/1-A	Method Blank	Soluble	Solid	300.0	23904
LCS 880-23904/2-A	Lab Control Sample	Soluble	Solid	300.0	23904
LCSD 880-23904/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23904
880-13933-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	23904
880-13933-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23904

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Client Sample ID: SS01

Lab Sample ID: 890-2207-1

Date Collected: 04/18/22 14:05

Matrix: Solid

Date Received: 04/19/22 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	23940	04/21/22 11:35	MR	XEN MID
Total/NA	Analysis	8021B		1			23883	04/21/22 22:38	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24031	04/22/22 11:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			24123	04/25/22 09:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	23941	04/21/22 13:45	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24009	04/23/22 00:06	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	23904	04/21/22 09:39	CH	XEN MID
Soluble	Analysis	300.0		50			24341	04/27/22 17:37	CH	XEN MID

Client Sample ID: SS02

Lab Sample ID: 890-2207-2

Date Collected: 04/18/22 14:10

Matrix: Solid

Date Received: 04/19/22 16:26

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	23940	04/21/22 11:35	MR	XEN MID
Total/NA	Analysis	8021B		1			23883	04/21/22 22:59	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24031	04/22/22 11:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			24123	04/25/22 09:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	23941	04/21/22 13:45	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24009	04/23/22 01:11	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	23904	04/21/22 09:39	CH	XEN MID
Soluble	Analysis	300.0		20			24341	04/27/22 17:46	CH	XEN MID

Client Sample ID: SS03

Lab Sample ID: 890-2207-3

Date Collected: 04/18/22 14:15

Matrix: Solid

Date Received: 04/19/22 16:26

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	23940	04/21/22 11:35	MR	XEN MID
Total/NA	Analysis	8021B		1			23883	04/21/22 23:19	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24031	04/22/22 11:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			24123	04/25/22 09:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	23941	04/21/22 13:45	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24009	04/23/22 01:32	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	23904	04/21/22 09:39	CH	XEN MID
Soluble	Analysis	300.0		10			24341	04/27/22 18:14	CH	XEN MID

Client Sample ID: SS04

Lab Sample ID: 890-2207-4

Date Collected: 04/18/22 14:20

Matrix: Solid

Date Received: 04/19/22 16:26

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	23940	04/21/22 11:35	MR	XEN MID
Total/NA	Analysis	8021B		1			23883	04/21/22 23:40	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24031	04/22/22 11:18	AJ	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
 SDG: 03E1558023

Client Sample ID: SS04

Lab Sample ID: 890-2207-4

Date Collected: 04/18/22 14:20

Matrix: Solid

Date Received: 04/19/22 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			24123	04/25/22 09:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	23941	04/21/22 13:45	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24009	04/23/22 01:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	23904	04/21/22 09:39	CH	XEN MID
Soluble	Analysis	300.0		20			24341	04/27/22 18:23	CH	XEN MID

Client Sample ID: SS05

Lab Sample ID: 890-2207-5

Date Collected: 04/18/22 14:25

Matrix: Solid

Date Received: 04/19/22 16:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	23940	04/21/22 11:35	MR	XEN MID
Total/NA	Analysis	8021B		1			23883	04/22/22 00:00	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			24031	04/22/22 11:18	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			24123	04/25/22 09:06	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	23941	04/21/22 13:45	DM	XEN MID
Total/NA	Analysis	8015B NM		1			24009	04/23/22 02:15	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	23904	04/21/22 09:39	CH	XEN MID
Soluble	Analysis	300.0		20			24341	04/27/22 18:32	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
- 3
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- 13
- 14

Method Summary

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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



Sample Summary

Client: Ensolum
Project/Site: ROW 4 Muy Wayno

Job ID: 890-2207-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2207-1	SS01	Solid	04/18/22 14:05	04/19/22 16:26	0.5
890-2207-2	SS02	Solid	04/18/22 14:10	04/19/22 16:26	0.5
890-2207-3	SS03	Solid	04/18/22 14:15	04/19/22 16:26	0.5
890-2207-4	SS04	Solid	04/18/22 14:20	04/19/22 16:26	0.5
890-2207-5	SS05	Solid	04/18/22 14:25	04/19/22 16:26	0.5

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Chain of Custody

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

Environment Testing

Xenco



Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager: Kyle Jennings
 Company Name: Ensolium LLC
 Address: 705 W Wesley Ave. Suite 240
 City, State ZIP: Midland, TX 79705
 Phone: 817-683-2503

Bill to: (if different)
 Company Name: Adrian Baker
 Address: XTO Energy Inc.
 City, State ZIP: 3104 E Green Street
 Email: Kjennings@ensolium.com

Program: PRP Brownfields RRC Superfund
 State of Project: Level II Level III Level IV
 Reporting: EDD ADaPT Other: _____
 Deliverables: TRRP

Project Name: Row 4 May Weying Imp
 Project Number: 03E1568023
 Project Location: Eddy
 Sampler's Name: Alexis Castro
 PO #: _____

Turn Around: Routine Rush
 Due Date: _____
 TAT starts the day received by the lab, if received by 4:30pm

Temp Blank: Yes No
 Thermometer ID: TMM-007
 Cooler Custody Seals: Yes No
 Correction Factor: -0.2
 Sample Custody Seals: Yes No
 Temperature Reading: 3.8
 Corrected Temperature: 3.6

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST		Pres. Code	Parameters	Preservative Codes	Sample Comments
							None: NO	DI Water: H ₂ O				
S501	S	04/08/22	1405	0.5'	1	1						
S502	S	1410	1410		1	1						INC: NAPP2209039217
S503	S	1415	1415		1	1						AFE: DR. 2017.01427
S504	S	1420	1420		1	1						CAP. (MP, 01)
S505	S	1425	1425		1	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 SiO₂ Na Sr Ti 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 Ti U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<u>[Signature]</u>	<u>[Signature]</u>	4-19-22 1624			

Revised Date: 08/25/2020 Rev. 2020.2



Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2207-1

SDG Number: 03E1558023

Login Number: 2207

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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2207-1

SDG Number: 03E1558023

Login Number: 2207

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 04/21/22 11:26 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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Environment Testing
America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2379-1
Laboratory Sample Delivery Group: 03E1558023
Client Project/Site: ROW 3 Muy Wayno Line

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

Attn: Kalei Jennings

Authorized for release by:
6/10/2022 3:53:01 PM

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

LINKS

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results through



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

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

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Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Laboratory Job ID: 890-2379-1
SDG: 03E1558023

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Definitions/Glossary

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Job ID: 890-2379-1

Laboratory: Eurofins Carlsbad**Narrative**

**Job Narrative
890-2379-1****Receipt**

The samples were received on 6/6/2022 9:53 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 5.4°C

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH04 (890-2379-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-27017 and analytical batch 880-26971 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-26968 and analytical batch 880-26955 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

HPLC/IC

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



Client Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH01

Lab Sample ID: 890-2379-1

Date Collected: 06/03/22 09:35

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/07/22 14:58	06/08/22 06:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130			06/07/22 14:58	06/08/22 06:05	1
1,4-Difluorobenzene (Surr)	98		70 - 130			06/07/22 14:58	06/08/22 06:05	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			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 17:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 17:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 17:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	76		70 - 130			06/07/22 08:15	06/07/22 17:57	1
o-Terphenyl	87		70 - 130			06/07/22 08:15	06/07/22 17:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5340		50.4	mg/Kg			06/09/22 21:14	10

Client Sample ID: PH01

Lab Sample ID: 890-2379-2

Date Collected: 06/03/22 09:55

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 06:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130			06/07/22 14:58	06/08/22 06:25	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH01

Lab Sample ID: 890-2379-2

Date Collected: 06/03/22 09:55

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	06/07/22 14:58	06/08/22 06:25	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			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 18:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 18:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	81		70 - 130	06/07/22 08:15	06/07/22 18:18	1
o-Terphenyl	91		70 - 130	06/07/22 08:15	06/07/22 18:18	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1670		24.9	mg/Kg			06/09/22 21:37	5

Client Sample ID: PH02

Lab Sample ID: 890-2379-3

Date Collected: 06/03/22 10:30

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:46	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:46	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 06:46	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 06:46	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 06:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	06/07/22 14:58	06/08/22 06:46	1
1,4-Difluorobenzene (Surr)	100		70 - 130	06/07/22 14:58	06/08/22 06:46	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			06/08/22 15:52	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			06/08/22 10:33	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH02

Lab Sample ID: 890-2379-3

Date Collected: 06/03/22 10:30

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 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		06/07/22 08:15	06/07/22 18:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 18:40	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 18:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			06/07/22 08:15	06/07/22 18:40	1
o-Terphenyl	93		70 - 130			06/07/22 08:15	06/07/22 18:40	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	478		4.97	mg/Kg			06/10/22 11:36	1

Client Sample ID: PH02

Lab Sample ID: 890-2379-4

Date Collected: 06/03/22 12:25

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/07/22 14:58	06/08/22 07:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			06/07/22 14:58	06/08/22 07:06	1
1,4-Difluorobenzene (Surr)	100		70 - 130			06/07/22 14:58	06/08/22 07:06	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400	mg/Kg			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 19:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 19:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 19:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130			06/07/22 08:15	06/07/22 19:02	1
o-Terphenyl	87		70 - 130			06/07/22 08:15	06/07/22 19:02	1

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Client Sample Results

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Client Sample ID: PH02

Lab Sample ID: 890-2379-4

Date Collected: 06/03/22 12:25

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.1		4.97	mg/Kg			06/09/22 21:53	1

Client Sample ID: PH03

Lab Sample ID: 890-2379-5

Date Collected: 06/03/22 10:50

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		06/07/22 14:58	06/08/22 07:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			06/07/22 14:58	06/08/22 07:27	1
1,4-Difluorobenzene (Surr)	95		70 - 130			06/07/22 14:58	06/08/22 07:27	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			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 19:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 19:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 19:24	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			06/07/22 08:15	06/07/22 19:24	1
o-Terphenyl	89		70 - 130			06/07/22 08:15	06/07/22 19:24	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3020		25.0	mg/Kg			06/09/22 22:01	5

Client Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH03

Lab Sample ID: 890-2379-6

Date Collected: 06/03/22 11:05

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
Toluene	<0.00201	U	0.00201	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		06/07/22 14:58	06/08/22 07:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			06/07/22 14:58	06/08/22 07:47	1
1,4-Difluorobenzene (Surr)	101		70 - 130			06/07/22 14:58	06/08/22 07:47	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			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 19:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 19:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 19:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130			06/07/22 08:15	06/07/22 19:45	1
o-Terphenyl	92		70 - 130			06/07/22 08:15	06/07/22 19:45	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	153		5.02	mg/Kg			06/09/22 22:09	1

Client Sample ID: PH04

Lab Sample ID: 890-2379-7

Date Collected: 06/03/22 12:30

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 08:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130			06/07/22 14:58	06/08/22 08:08	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Client Sample ID: PH04

Lab Sample ID: 890-2379-7

Date Collected: 06/03/22 12:30

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130	06/07/22 14:58	06/08/22 08:08	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			06/08/22 15:52	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			06/08/22 10:33	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		06/07/22 08:15	06/07/22 20:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 20:07	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	06/07/22 08:15	06/07/22 20:07	1
o-Terphenyl	91		70 - 130	06/07/22 08:15	06/07/22 20:07	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1860		25.0	mg/Kg			06/09/22 22:17	5

Client Sample ID: PH04

Lab Sample ID: 890-2379-8

Date Collected: 06/03/22 12:45

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:52	1
Toluene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:52	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:52	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 08:52	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		06/07/22 14:58	06/08/22 08:52	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		06/07/22 14:58	06/08/22 08:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	69	S1-	70 - 130	06/07/22 14:58	06/08/22 08:52	1
1,4-Difluorobenzene (Surr)	60	S1-	70 - 130	06/07/22 14:58	06/08/22 08:52	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			06/08/22 15:52	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			06/08/22 10:33	1

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Client Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH04

Lab Sample ID: 890-2379-8

Date Collected: 06/03/22 12:45

Matrix: Solid

Date Received: 06/06/22 09:53

Sample Depth: 4

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		06/07/22 08:15	06/07/22 20:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 20:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/07/22 08:15	06/07/22 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	06/07/22 08:15	06/07/22 20:28	1
o-Terphenyl	92		70 - 130	06/07/22 08:15	06/07/22 20:28	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35.3		4.95	mg/Kg			06/10/22 07:56	1

Surrogate Summary

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

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)
890-2374-A-5-C MS	Matrix Spike	108	100
890-2374-A-5-D MSD	Matrix Spike Duplicate	110	100
890-2379-1	PH01	109	98
890-2379-2	PH01	110	99
890-2379-3	PH02	114	100
890-2379-4	PH02	111	100
890-2379-5	PH03	116	95
890-2379-6	PH03	115	101
890-2379-7	PH04	112	99
890-2379-8	PH04	69 S1-	60 S1-
LCS 880-27017/1-A	Lab Control Sample	108	99
LCSD 880-27017/2-A	Lab Control Sample Dup	108	97
MB 880-26988/5-A	Method Blank	98	100
MB 880-27017/5-A	Method Blank	99	95

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

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2376-A-101-B MS	Matrix Spike	86	84
890-2376-A-101-C MSD	Matrix Spike Duplicate	84	80
890-2379-1	PH01	76	87
890-2379-2	PH01	81	91
890-2379-3	PH02	80	93
890-2379-4	PH02	80	87
890-2379-5	PH03	84	89
890-2379-6	PH03	84	92
890-2379-7	PH04	83	91
890-2379-8	PH04	84	92
LCS 880-26968/2-A	Lab Control Sample	85	86
LCSD 880-26968/3-A	Lab Control Sample Dup	75	74
MB 880-26968/1-A	Method Blank	72	86

Surrogate Legend
 1CO = 1-Chlorooctane
 OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-26988/5-A
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26988

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 08:57	06/07/22 12:43	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 08:57	06/07/22 12:43	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 08:57	06/07/22 12:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/07/22 08:57	06/07/22 12:43	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 08:57	06/07/22 12:43	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/07/22 08:57	06/07/22 12:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	06/07/22 08:57	06/07/22 12:43	1
1,4-Difluorobenzene (Surr)	100		70 - 130	06/07/22 08:57	06/07/22 12:43	1

Lab Sample ID: MB 880-27017/5-A
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 27017

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 00:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 00:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 00:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/07/22 14:58	06/08/22 00:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 14:58	06/08/22 00:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/07/22 14:58	06/08/22 00:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	06/07/22 14:58	06/08/22 00:22	1
1,4-Difluorobenzene (Surr)	95		70 - 130	06/07/22 14:58	06/08/22 00:22	1

Lab Sample ID: LCS 880-27017/1-A
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 27017

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09392		mg/Kg		94	70 - 130
Toluene	0.100	0.09786		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.09108		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.2075		mg/Kg		104	70 - 130
o-Xylene	0.100	0.1041		mg/Kg		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-27017/2-A
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27017

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08291		mg/Kg		83	70 - 130	12	35

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QC Sample Results

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

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

Lab Sample ID: LCSD 880-27017/2-A
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 27017

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Toluene	0.100	0.09423		mg/Kg		94	70 - 130	4	35	
Ethylbenzene	0.100	0.08889		mg/Kg		89	70 - 130	2	35	
m-Xylene & p-Xylene	0.200	0.2054		mg/Kg		103	70 - 130	1	35	
o-Xylene	0.100	0.1029		mg/Kg		103	70 - 130	1	35	
		LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene (Surr)	108		70 - 130							
1,4-Difluorobenzene (Surr)	97		70 - 130							

Lab Sample ID: 890-2374-A-5-C MS
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 27017

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U F1	0.100	0.05763	F1	mg/Kg		58	70 - 130		35	
Toluene	<0.00201	U	0.100	0.07360		mg/Kg		73	70 - 130		35	
Ethylbenzene	<0.00201	U	0.100	0.07003		mg/Kg		70	70 - 130		35	
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1634		mg/Kg		82	70 - 130		35	
o-Xylene	<0.00201	U	0.100	0.08332		mg/Kg		83	70 - 130		35	
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	108		70 - 130									
1,4-Difluorobenzene (Surr)	100		70 - 130									

Lab Sample ID: 890-2374-A-5-D MSD
Matrix: Solid
Analysis Batch: 26971

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 27017

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Benzene	<0.00201	U F1	0.0990	0.07694		mg/Kg		78	70 - 130	29	35	
Toluene	<0.00201	U	0.0990	0.08291		mg/Kg		84	70 - 130	12	35	
Ethylbenzene	<0.00201	U	0.0990	0.07812		mg/Kg		79	70 - 130	11	35	
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1796		mg/Kg		91	70 - 130	9	35	
o-Xylene	<0.00201	U	0.0990	0.09055		mg/Kg		91	70 - 130	8	35	
		MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene (Surr)	110		70 - 130									
1,4-Difluorobenzene (Surr)	100		70 - 130									

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

Lab Sample ID: MB 880-26968/1-A
Matrix: Solid
Analysis Batch: 26955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26968

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 10:51	1

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QC Sample Results

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

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

Lab Sample ID: MB 880-26968/1-A
Matrix: Solid
Analysis Batch: 26955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26968

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 10:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 10:51	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac		
	%Recovery	Qualifier						
1-Chlorooctane	72		70 - 130	06/07/22 08:15	06/07/22 10:51	1		
o-Terphenyl	86		70 - 130	06/07/22 08:15	06/07/22 10:51	1		

Lab Sample ID: LCS 880-26968/2-A
Matrix: Solid
Analysis Batch: 26955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 26968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	1000	1021		mg/Kg		102	70 - 130
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
1-Chlorooctane	85		70 - 130				
o-Terphenyl	86		70 - 130				

Lab Sample ID: LCSD 880-26968/3-A
Matrix: Solid
Analysis Batch: 26955

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 26968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	727.7		mg/Kg		73	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	1000	863.1		mg/Kg		86	70 - 130	17	20
Surrogate	LCSD	LCSD	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	75		70 - 130						
o-Terphenyl	74		70 - 130						

Lab Sample ID: 890-2376-A-101-B MS
Matrix: Solid
Analysis Batch: 26955

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 26968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (Over C10-C28)	60.3		997	814.5		mg/Kg		76	70 - 130
Surrogate	MS	MS	Limits						
	%Recovery	Qualifier							
1-Chlorooctane	86		70 - 130						
o-Terphenyl	84		70 - 130						

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QC Sample Results

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

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

Lab Sample ID: 890-2376-A-101-C MSD
 Matrix: Solid
 Analysis Batch: 26955

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 26968

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 F1	1000	672.4	F1	mg/Kg		67	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	60.3		1000	791.9		mg/Kg		73	70 - 130	3	20
Surrogate	%Recovery	MSD Qualifier									
1-Chlorooctane	84								70 - 130		
o-Terphenyl	80								70 - 130		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-27031/1-A
 Matrix: Solid
 Analysis Batch: 27217

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			06/09/22 18:29	1

Lab Sample ID: LCS 880-27031/2-A
 Matrix: Solid
 Analysis Batch: 27217

Client Sample ID: Lab Control Sample
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	246.3		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-27031/3-A
 Matrix: Solid
 Analysis Batch: 27217

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	247.1		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-15521-A-3-C MS
 Matrix: Solid
 Analysis Batch: 27217

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	18.9		252	263.8		mg/Kg		97	90 - 110

Lab Sample ID: 880-15521-A-3-D MSD
 Matrix: Solid
 Analysis Batch: 27217

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	18.9		252	263.3		mg/Kg		97	90 - 110	0	20

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QC Association Summary

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

GC VOA

Analysis Batch: 26971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	8021B	27017
890-2379-2	PH01	Total/NA	Solid	8021B	27017
890-2379-3	PH02	Total/NA	Solid	8021B	27017
890-2379-4	PH02	Total/NA	Solid	8021B	27017
890-2379-5	PH03	Total/NA	Solid	8021B	27017
890-2379-6	PH03	Total/NA	Solid	8021B	27017
890-2379-7	PH04	Total/NA	Solid	8021B	27017
890-2379-8	PH04	Total/NA	Solid	8021B	27017
MB 880-26988/5-A	Method Blank	Total/NA	Solid	8021B	26988
MB 880-27017/5-A	Method Blank	Total/NA	Solid	8021B	27017
LCS 880-27017/1-A	Lab Control Sample	Total/NA	Solid	8021B	27017
LCSD 880-27017/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27017
890-2374-A-5-C MS	Matrix Spike	Total/NA	Solid	8021B	27017
890-2374-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	27017

Prep Batch: 26988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-26988/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 27017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	5035	
890-2379-2	PH01	Total/NA	Solid	5035	
890-2379-3	PH02	Total/NA	Solid	5035	
890-2379-4	PH02	Total/NA	Solid	5035	
890-2379-5	PH03	Total/NA	Solid	5035	
890-2379-6	PH03	Total/NA	Solid	5035	
890-2379-7	PH04	Total/NA	Solid	5035	
890-2379-8	PH04	Total/NA	Solid	5035	
MB 880-27017/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27017/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27017/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2374-A-5-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2374-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 27107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	Total BTEX	
890-2379-2	PH01	Total/NA	Solid	Total BTEX	
890-2379-3	PH02	Total/NA	Solid	Total BTEX	
890-2379-4	PH02	Total/NA	Solid	Total BTEX	
890-2379-5	PH03	Total/NA	Solid	Total BTEX	
890-2379-6	PH03	Total/NA	Solid	Total BTEX	
890-2379-7	PH04	Total/NA	Solid	Total BTEX	
890-2379-8	PH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 26955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	8015B NM	26968

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

GC Semi VOA (Continued)

Analysis Batch: 26955 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-2	PH01	Total/NA	Solid	8015B NM	26968
890-2379-3	PH02	Total/NA	Solid	8015B NM	26968
890-2379-4	PH02	Total/NA	Solid	8015B NM	26968
890-2379-5	PH03	Total/NA	Solid	8015B NM	26968
890-2379-6	PH03	Total/NA	Solid	8015B NM	26968
890-2379-7	PH04	Total/NA	Solid	8015B NM	26968
890-2379-8	PH04	Total/NA	Solid	8015B NM	26968
MB 880-26968/1-A	Method Blank	Total/NA	Solid	8015B NM	26968
LCS 880-26968/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	26968
LCSD 880-26968/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	26968
890-2376-A-101-B MS	Matrix Spike	Total/NA	Solid	8015B NM	26968
890-2376-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	26968

Prep Batch: 26968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	8015NM Prep	
890-2379-2	PH01	Total/NA	Solid	8015NM Prep	
890-2379-3	PH02	Total/NA	Solid	8015NM Prep	
890-2379-4	PH02	Total/NA	Solid	8015NM Prep	
890-2379-5	PH03	Total/NA	Solid	8015NM Prep	
890-2379-6	PH03	Total/NA	Solid	8015NM Prep	
890-2379-7	PH04	Total/NA	Solid	8015NM Prep	
890-2379-8	PH04	Total/NA	Solid	8015NM Prep	
MB 880-26968/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-26968/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-26968/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2376-A-101-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2376-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 27083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Total/NA	Solid	8015 NM	
890-2379-2	PH01	Total/NA	Solid	8015 NM	
890-2379-3	PH02	Total/NA	Solid	8015 NM	
890-2379-4	PH02	Total/NA	Solid	8015 NM	
890-2379-5	PH03	Total/NA	Solid	8015 NM	
890-2379-6	PH03	Total/NA	Solid	8015 NM	
890-2379-7	PH04	Total/NA	Solid	8015 NM	
890-2379-8	PH04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 27031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Soluble	Solid	DI Leach	
890-2379-2	PH01	Soluble	Solid	DI Leach	
890-2379-3	PH02	Soluble	Solid	DI Leach	
890-2379-4	PH02	Soluble	Solid	DI Leach	
890-2379-5	PH03	Soluble	Solid	DI Leach	
890-2379-6	PH03	Soluble	Solid	DI Leach	
890-2379-7	PH04	Soluble	Solid	DI Leach	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

HPLC/IC (Continued)

Leach Batch: 27031 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-8	PH04	Soluble	Solid	DI Leach	
MB 880-27031/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-27031/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-27031/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-15521-A-3-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-15521-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 27217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2379-1	PH01	Soluble	Solid	300.0	27031
890-2379-2	PH01	Soluble	Solid	300.0	27031
890-2379-3	PH02	Soluble	Solid	300.0	27031
890-2379-4	PH02	Soluble	Solid	300.0	27031
890-2379-5	PH03	Soluble	Solid	300.0	27031
890-2379-6	PH03	Soluble	Solid	300.0	27031
890-2379-7	PH04	Soluble	Solid	300.0	27031
890-2379-8	PH04	Soluble	Solid	300.0	27031
MB 880-27031/1-A	Method Blank	Soluble	Solid	300.0	27031
LCS 880-27031/2-A	Lab Control Sample	Soluble	Solid	300.0	27031
LCSD 880-27031/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	27031
880-15521-A-3-C MS	Matrix Spike	Soluble	Solid	300.0	27031
880-15521-A-3-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	27031

Lab Chronicle

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH01

Lab Sample ID: 890-2379-1

Date Collected: 06/03/22 09:35

Matrix: Solid

Date Received: 06/06/22 09:53

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	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 06:05	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 17:57	SM	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		10			27217	06/09/22 21:14	CH	XEN MID

Client Sample ID: PH01

Lab Sample ID: 890-2379-2

Date Collected: 06/03/22 09:55

Matrix: Solid

Date Received: 06/06/22 09:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 06:25	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 18:18	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		5			27217	06/09/22 21:37	CH	XEN MID

Client Sample ID: PH02

Lab Sample ID: 890-2379-3

Date Collected: 06/03/22 10:30

Matrix: Solid

Date Received: 06/06/22 09:53

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	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 06:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 18:40	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		1			27217	06/10/22 11:36	CH	XEN MID

Client Sample ID: PH02

Lab Sample ID: 890-2379-4

Date Collected: 06/03/22 12:25

Matrix: Solid

Date Received: 06/06/22 09:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 07:06	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Client Sample ID: PH02

Lab Sample ID: 890-2379-4

Date Collected: 06/03/22 12:25

Matrix: Solid

Date Received: 06/06/22 09:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 19:02	SM	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		1			27217	06/09/22 21:53	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-2379-5

Date Collected: 06/03/22 10:50

Matrix: Solid

Date Received: 06/06/22 09:53

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	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 07:27	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 19:24	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		5			27217	06/09/22 22:01	CH	XEN MID

Client Sample ID: PH03

Lab Sample ID: 890-2379-6

Date Collected: 06/03/22 11:05

Matrix: Solid

Date Received: 06/06/22 09:53

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	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 07:47	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 19:45	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		1			27217	06/09/22 22:09	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-2379-7

Date Collected: 06/03/22 12:30

Matrix: Solid

Date Received: 06/06/22 09:53

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	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 08:08	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 20:07	SM	XEN MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
 Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
 SDG: 03E1558023

Client Sample ID: PH04

Lab Sample ID: 890-2379-7

Date Collected: 06/03/22 12:30

Matrix: Solid

Date Received: 06/06/22 09:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		5			27217	06/09/22 22:17	CH	XEN MID

Client Sample ID: PH04

Lab Sample ID: 890-2379-8

Date Collected: 06/03/22 12:45

Matrix: Solid

Date Received: 06/06/22 09:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	27017	06/07/22 14:58	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	26971	06/08/22 08:52	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27107	06/08/22 15:52	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27083	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 20:28	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	27031	06/07/22 16:03	SC	XEN MID
Soluble	Analysis	300.0		1			27217	06/10/22 07:56	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
- 3
- 4
- 5
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Method Summary

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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



Sample Summary

Client: Ensolum
Project/Site: ROW 3 Muy Wayno Line

Job ID: 890-2379-1
SDG: 03E1558023

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2379-1	PH01	Solid	06/03/22 09:35	06/06/22 09:53	2
890-2379-2	PH01	Solid	06/03/22 09:55	06/06/22 09:53	4
890-2379-3	PH02	Solid	06/03/22 10:30	06/06/22 09:53	1
890-2379-4	PH02	Solid	06/03/22 12:25	06/06/22 09:53	4
890-2379-5	PH03	Solid	06/03/22 10:50	06/06/22 09:53	1
890-2379-6	PH03	Solid	06/03/22 11:05	06/06/22 09:53	4
890-2379-7	PH04	Solid	06/03/22 12:30	06/06/22 09:53	1
890-2379-8	PH04	Solid	06/03/22 12:45	06/06/22 09:53	4

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- 14



Environment Testing
Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kaleri Jennings	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum LLC	Company Name:	XTO Energy, Inc.
Address:		Address:	3104 E. Green Street
City, State ZIP:		City, State ZIP:	Carlsbad, NM 88220
Phone:	817.683.2503	Email:	kjennings@ensolum.com

Work Order Comments	
Program: UST/PST	<input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:	
Reporting: Level II	<input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD	<input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	ROW 3 Mly Wayne Line	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03E1558023	Due Date:			
Project Location:	Comer Shore	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:		Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
PO #:		Thermometer ID:	1111-007		

SAMPLE RECEIPT	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Parameters
Samples Received Intact:	Yes	No	Correction Factor:	-0.0	
Cooler Custody Seals:	Yes	No	Temperature Reading:	5.4	
Sample Custody Seals:	Yes	No	Corrected Temperature:	5.4	
Total Containers:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Preservative Codes	Sample Comments
PH01	S	06.03.22	935	2'	G	1	X	X	X	None: NO	DI Water: H ₂ O
PH01	S	06.03.22	955	4'	G	1	X	X	X	Cool: Cool	MeOH: Me
PH02	S	06.03.22	1030	1'	G	1	X	X	X	HCl: HC	HNO ₃ : HN
PH02	S	06.03.22	1225	4'	G	1	X	X	X	H ₂ SO ₄ : H ₂	NaOH: Na
PH03	S	06.03.22	1050	1'	G	1	X	X	X	H ₃ PO ₄ : HP	
PH03	S	06.03.22	1105	4'	G	1	X	X	X	NaHSO ₄ : NABIS	
PH04	S	06.03.22	1230	1'	G	1	X	X	X	Nb ₂ S ₂ O ₇ : NaSO ₃	
PH04	S	06.03.22	1245	4'	G	1	X	X	X	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 SiO₂ Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / S/PLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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 \$95.00 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
	<i>[Signature]</i>	10.03.22 0953			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2379-1

SDG Number: 03E1558023

Login Number: 2379

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	

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2379-1

SDG Number: 03E1558023

Login Number: 2379

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 06/07/22 12:08 PM

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

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APPENDIX E
NMOCD Notifications

From: [Aimee Cole](#)
To: [Tacoma Morrissey](#); [Kalei Jennings](#); [Ben Belill](#)
Subject: FW: XTO - Sampling Notification (week of 5/30/22 - 6/3/22)
Date: Wednesday, May 25, 2022 3:40:13 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Submittal below for your records/attachment for reporting.
 Thanks!



Aimee Cole
 Senior Managing Scientist
 720-384-7365
Ensolum, LLC

From: Baker, Adrian <adrian.baker@exxonmobil.com>
Sent: Wednesday, May 25, 2022 2:17 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Aimee Cole <acole@ensolum.com>
Subject: XTO - Sampling Notification (week of 5/30/22 - 6/3/22)

[****EXTERNAL EMAIL****]

All,

XTO plans to complete final sampling activities at the following sites the week of May 30, 2022.

Tuesday, May 31st

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- BEU 5E Han Solo 114H / nAPP2209041753

Wednesday, June 1st

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- BEU 5E Han Solo 114H / nAPP2209041753

Thursday, June 2nd

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- Row 4 Muy Wayno Line / nAPP2209039217
- Pierce Canyon 3 SWD/ nAPP2209446613

Friday, June 3rd

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- Row 4 Muy Wayno Line / nAPP2209039217

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

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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

QUESTIONS

Action 540310

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2209039217
Incident Name	NAPP2209039217 ROW 4 MUY WAYNO PIPELINE @ FAPP2218240516
Incident Type	Produced Water Release
Incident Status	Remediation Closure Report Received
Incident Facility	[fAPP2218240516] XTO PERMIAN MIDSTREAM NGGS

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	ROW 4 MUY WAYNO PIPELINE
Date Release Discovered	03/19/2022
Surface Owner	State

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Corrosion Pipeline (Any) Produced Water Released: 285 BBL Recovered: 260 BBL Lost: 25 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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QUESTIONS, Page 2

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

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.

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEEnvNotifications@exxonmobil.com Date: 01/06/2026
--	--

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QUESTIONS, Page 3

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 500 and 1000 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between 1000 (ft.) and ½ (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between ½ and 1 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	573
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	70
GRO+DRO (EPA SW-846 Method 8015M)	70
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	04/18/2022
On what date will (or did) the final sampling or liner inspection occur	09/05/2025
On what date will (or was) the remediation complete(d)	09/05/2025
What is the estimated surface area (in square feet) that will be reclaimed	17135
What is the estimated volume (in cubic yards) that will be reclaimed	1450
What is the estimated surface area (in square feet) that will be remediated	17135
What is the estimated volume (in cubic yards) that will be remediated	1450

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	fEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 01/06/2026
--	---

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 5

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	502224
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/05/2025
What was the (estimated) number of samples that were to be gathered	2
What was the sampling surface area in square feet	400

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	17135
What was the total volume (cubic yards) remediated	1450
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	17135
What was the total volume (in cubic yards) reclaimed	1450
Summarize any additional remediation activities not included by answers (above)	"Excavation activities were conducted at the Site in accordance with the Work Plan to address the March 2022 release of produced water. Laboratory analytical results for all final excavation soil samples collected indicate COC concentrations were compliant with the Closure Criteria. Based on the soil sample laboratory analytical results, no further remediation is required. The excavation has been backfilled with material purchased locally and the Site has been recontoured to match pre-existing site conditions. Excavation of soil has mitigated impacts exceeding the Closure Criteria at the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2209039217."

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 01/06/2026
--	---

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QUESTIONS, Page 7

Action 540310

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 540310

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 540310
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
nvez	Remediation closure report approved. Since the release originated on-site, reclamation report is required to be submitted after the facility has been decommissioned. Release resolved.	2/24/2026