Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1528240224
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 6/21/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: Robert Hamlet Date: 11/29/2023

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

Closure Approved by: Robert Hamlet Date: 11/29/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

ENSOLUM

CLOSURE REQUEST REPORT

Site Location:

Ross Draw Unit #034
Eddy County, New Mexico
Incident Number nAB1528240224

June 20, 2023
Ensolum Project No. 03A1987018

Prepared for:

WPX Energy Permian, LLC
5315 Buena Vista Drive
Carlsbad, New Mexico 88220
Attention: Jim Raley

Prepared by:

Ashley Giovengo
Senior Engineer

Daniel R. Moir, PG
Senior Managing Geologist

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APPENDICES

1.0 INTRODUCTION

Ensolum, LLC (Ensolum) has prepared this Closure Request Report (CRR) to document assessment and soil sampling activities and final corrective actions performed to date for WPX Energy Permian, LLC (WPX) at the Ross Draw Unit #034 (Site), located in Unit D, Section 22, Township 26 South, Range 30 East, in Eddy County, New Mexico. Additional remediation was conducted as outlined in the Remediation Work Plan Addendum (RWPA), which was approved by the New Mexico Oil Conservation Division (NMOCD) on December 29, 2022, with the following condition:

> *"Five-composite confirmation samples representative of no more than 200 square feet must be collected from the base and walls of the excavation prior to backfilling activities."*

Based on the completed remedial actions and results of subsequent soil sampling events to address the release of produced water at the Site, WPX is respectfully requesting No Further Action (NFA) for Incident Number nAB1528240224. All previous remediation activities and soil sample analytical results can be referenced in the original RWPA, and subsequent CRR, prepared by Ensolum.

1.1 Site Description and Release Background

The Site is located within Eddy County, New Mexico (32.0336418° N, 103.8763428° W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM)-managed federal land (see **Figure 1)**.

On October 6, 2015, a poly line carrying natural gas parted and caught fire. Produced water lines laying near the natural gas line melted, causing the release of approximately 70 barrels (bbls) of produced water onto the pipeline right-of-way (ROW); 55 bbls of produced water was recovered from the off-pad spill area. RKI E&P, LLC (RKI) reported the release to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) and subsequently the release was assigned Incident Number nAB1528240224 (2RP-3322), see **Appendix A**.

1.2 Site Characterization

The Site was assessed to determine applicability of Table I, Closure Criteria for Soils Impacted by a Release, from 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 Form C-141, Site Assessment/Characterization, and have also been documented in previous reports submitted to the NMOCD. Potential Site receptors are identified on **Figure 1**.

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

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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release.

2.0 REMEDIATION ACTIONS

Ensolum conducted soil sampling activities at the Site to verify the final removal of waste-containing soil associated with the subject release through excavation efforts. Approximately 195 cubic yards of impacted soil were removed from the Site and disposed of under WPX-approved manifests.

2.1 Excavation Activities

Between February 20 and March 13, 2022, Ensolum oversaw excavation activities to remove residual waste-containing soil associated with the subject release in the top 4 feet via mechanical heavy equipment. Excavation activities were directed by referencing delineation laboratory analytical results documented in the RWPA and field screening for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. As a result, two separate excavations were advanced to address the area of concern (AOC). Photographic documentation was conducted during excavation activities and is included in **Appendix B**.

Following removal of waste-containing soil, Ensolum collected composite excavation confirmation soil samples at the sampling frequency of every 200 square feet from the sidewalls and floors of the excavations to confirm waste-containing soil above reclamation requirements and/or Closure Criteria was successfully removed. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples SW01 through SW06 were collected from the sidewalls of the excavations at depths ranging from the ground surface to approximately 4 feet below ground surface (bgs). Confirmation soil samples FS01 through FS06 were collected from the floors of the excavations at a depth of approximately 4 feet bgs. The excavations and confirmation soil samples are depicted on **Figure 2**.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported and chilled, under strict chain-of-custody procedures, to Eurofins LLC (Eurofins) in Carlsbad, New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following EPA Method 300.0.

2.2 Waste Handling

A total of approximately 195 cubic yards of waste-containing soil were excavated and removed from the Site. All waste-containing soil was hauled to the R360 landfill facility located in Orla, Texas under WPX-approved manifests. The excavations were backfilled with locally sourced topsoil to match pre-existing conditions.

3.0 SOIL SAMPLING RESULTS

Laboratory analytical results of confirmation soil samples collected on March 13, 2023, indicated concentrations of all COCs were in compliance with the Closure Criteria for the Site and with the reclamation requirement. The analytical results are summarized on **Table 1,** the executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix C. Appendix D** provides extension and correspondence email notification receipts associated with the subject release.

4.0 CLOSURE REQUEST

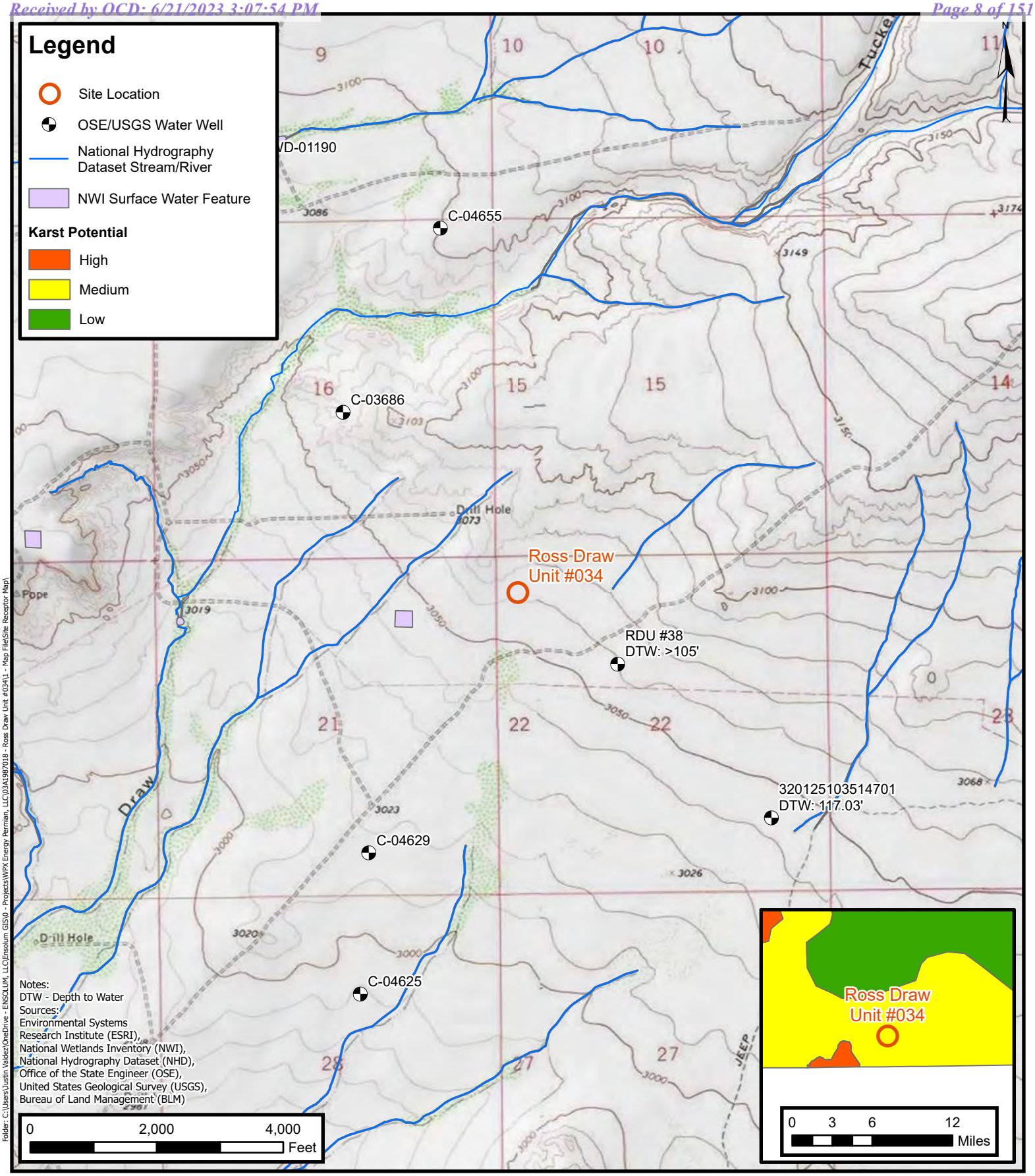
The primary objectives of Ensolum's scope of services were to document remediation activities performed at the Site in accordance with the approved RWPA and applicable NMOCD regulatory guidelines. Based on the results documented in this report, the following findings and conclusions regarding the subject release are presented:

- Laboratory analytical results for confirmation floor soil samples FS01 through FS06 and sidewall soil samples SW01 through SW06 were in compliance with the Site Closure Criteria and with the reclamation requirement;
- An estimated total of **195 cubic yards** of waste-containing soil has been removed from the subject release area;
- The excavations have been backfilled with locally sourced topsoil to match pre-existing Site conditions: and
- Areas off-pad will be seeded in the fall with a BLM-approved seed mixture in order to revegetate areas disturbed in the pasture.

Based on the conclusions presented, WPX believes the remediation activities described above have met the requirements set forth in 19.15.29.13 NMAC in order to be protective of human health, the environment, and groundwater. As such, WPX respectfully requests NFA of Incident Number nAB1528240224 (2RP-3322).

ENSOLUM

FIGURES



Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\WPX Energy Permian, LLC\03A1987018 - Ross Draw Unit #034\1 - Map File\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

WPX Energy Permian, LLC
Ross Draw Unit #034
Incident Number: nAPP2107554265
Unit D, Section 22, Township 26S, Range 30 East
Eddy County, New Mexico

FIGURE 1

Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\WPX Energy Permian, LLC\03A1987018 - Ross Draw Unit #034\1 - Map File\Excavation Soil Sample Locations Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Confirmation Soil Sample Locations

WPX Energy Permian, LLC
Ross Draw Unit #034
Incident Number: nAPP2107554265
Unit D, Section 22, Township 26S, Range 30 East
Eddy County, New Mexico

FIGURE 2

ENSOLUM

TABLES

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TABLE I
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC - Ross Draw Unit #034
Eddy County, New Mexico

Ensolum Project No. 03A1987018

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Excavation Soil Sample Analytical Results										
SW01	03/13/2023	0-4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	53.7
SW02	03/13/2023	0-4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	104
SW03	03/13/2023	0-4	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	445
SW04	03/13/2023	0-4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	157
SW05	03/13/2023	0-4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	520
SW06	03/13/2023	0-4	<0.00200	0.00421	<49.9	<49.9	<49.9	<49.9	<49.9	9.01
FS01	03/13/2023	4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	557
FS02	03/13/2023	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	509
FS03	03/13/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	1,100
FS04	03/13/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	2,090
FS05	03/13/2023	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	12.7
FS06	03/13/2023	4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	657

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

"<": Analytical results is less than the laboratory reporting limit

ENSOLUM

APPENDIX A

C-141 Form

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1528240224 241289

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company RKI E&P, LLC	Contact Taylor Jones
Address 210 Park Ave. – Ste. 700, OKC, OK 73102	Telephone No. 405-996-5782
Facility Name: Ross Draw Unit 34	Facility Type : Oil and Gas Well

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-41578

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	22	26S	30E	600	FNL	435	FWL	Eddy

Latitude: 32.0336418 **Longitude:** -103.8763428

NATURE OF RELEASE

Type of Release. Produced Water	Volume of Release: 70 Bbls	Volume Recovered: 55 Bbls
Source of Release Surface Poly line	Date and Hour of Occurrence 10/6/15 – 0300hrs MT	Date and Hour of Discovery 10/06/15 – 0300hrs MT
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Shelly Tucker (BLM)	
By Whom? Zack Laird	Date and Hour: 10/07/15 – 1130hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 07 2015
RECEIVED

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*
A poly line carrying natural gas parted and caught fire on the ROW which has 2 other gas lines and 5 poly water lines on it which in turn melted the water lines causing the produced water release

Describe Area Affected and Cleanup Action Taken.*

Produced water spill remained on pipeline ROW, affecting a 25'x25' area. Gas to poly line was shut in allowing fire to extinguish. Vac truck dispatched to recover all standing produced water.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Taylor Jones

Printed Name: Taylor Jones

Title: EHS Systems Specialist

E-mail Address: Tjones@rkixp.com

Date: 10/07/15 Phone: 405-996-5782

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 10/9/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 11/13/15

2RP-3322

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID:	nAB1528240224
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRID: 246289
Contact Name: Jim Raley	Contact Telephone: 575-689-7597
Contact email: jim.raley@dvn.com	Incident # *(assigned by OCD)*: nAB1528240224
Contact mailing address: 5315 Buena Vista Dr, Carlsbad, NM, 88220	

Location of Release Source

Latitude 32.0336418 Longitude -103.8763428
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Ross Draw Unit #34	Site Type: Oil and Gas Well
Date Release Discovered: 10/6/2015	API# *(if applicable)*: 30-015-41578

Unit Letter	Section	Township	Range	County
D	22	26S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☒ Produced Water	Volume Released (bbls): 70 Bbls	Volume Recovered (bbls): 55 Bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
A poly line carrying natural gas parted and caught fire on the ROW which has 2 other gas lines and 5 poly lines on it which in turn melted the water lines causing the produced water release.

$$bbl\ estimate = \frac{saturated\ soil\ volume(ft^3)}{4.21(\frac{ft^3}{bbl\ equivalent})} * estimated\ soil\ porosity\ (\%) + recovered\ fluids\ (bbls)$$

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1528240224
District RP	
Facility ID	
Application ID	

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

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

A notice was given by Taylor Jones to Shelly Tucker (BLM) and Heather Patterson (EMNRD) via email on October 07, 2015.

Initial Response

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

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

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

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

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

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 6/21/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	nAB1528240224
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	>105 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1528240224
District RP	
Facility ID	
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Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 6/21/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID:	nAB1528240224
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Jim Raley Title: Environmental Professional

Signature: Jim Raley Date: 6/21/2023

email: jim.raley@dvn.com Telephone: 575-689-7597

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
WPX Energy Permian, LLC.
Ross Draw Unit #034
Incident Number: nAB1528240224

Photograph 1 Date: 02/20/2023
Description: Site assessment, poly line relocation.
View: Southwest

Photograph 2 Date: 03/13/2023
Description: Western excavation activities.
View: Southwest

Photograph 3 Date: 03/13/2023
Description: Eastern excavation activities.
View: Southeast

Photograph 4 Date: 03/13/2023
Description: Eastern excavation activities.
View: Southwest

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/26/2023 7:38:47 AM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4305-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

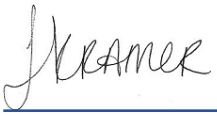
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4305-1
SDG: 03A1987018

Table of Contents

Eurofins Carlsbad
3/26/2023

Definitions/Glossary

Client: Ensolum Job ID: 890-4305-1
Project/Site: Ross Draw Unit #034 SDG: 03A1987018

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
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Job ID: 890-4305-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4305-1

Receipt
The samples were received on 3/14/2023 9:14 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 0.8°C

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-48883 and analytical batch 880-48946 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48883/2-A) and (LCSD 880-48883/3-A). 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: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Client Sample ID: SW01

Lab Sample ID: 890-4305-1
Matrix: Solid
Date Collected: 03/13/23 14:30
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

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		03/22/23 13:23	03/23/23 13:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 13:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 13:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 13:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 13:32	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*03/22/23 13:23*	*03/23/23 13:32*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*03/22/23 13:23*	*03/23/23 13:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/24/23 08:51	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			03/22/23 16:11	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		03/18/23 09:47	03/20/23 16:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 16:56	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*03/18/23 09:47*	*03/20/23 16:56*	*1*
o-Terphenyl	*81*		*70 - 130*	*03/18/23 09:47*	*03/20/23 16:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.7**		5.03		mg/Kg			03/22/23 21:48	1

Client Sample ID: SW02

Lab Sample ID: 890-4305-2
Matrix: Solid
Date Collected: 03/13/23 15:00
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 13:52	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 13:52	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 13:52	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/22/23 13:23	03/23/23 13:52	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 13:52	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/22/23 13:23	03/23/23 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*03/22/23 13:23*	*03/23/23 13:52*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Client Sample ID: SW02
Date Collected: 03/13/23 15:00
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

Lab Sample ID: 890-4305-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*03/22/23 13:23*	*03/23/23 13:52*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			03/24/23 08:51	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			03/22/23 16:11	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	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:18	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:18	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*03/18/23 09:47*	*03/20/23 17:18*	*1*
o-Terphenyl	*91*		*70 - 130*	*03/18/23 09:47*	*03/20/23 17:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**104**		24.9		mg/Kg			03/22/23 21:53	5

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4305-1	SW01	122	110
890-4305-1 MS	SW01	113	113
890-4305-1 MSD	SW01	114	110
890-4305-2	SW02	118	110
LCS 880-49216/1-A	Lab Control Sample	102	108
LCSD 880-49216/2-A	Lab Control Sample Dup	102	108
MB 880-49216/5-A	Method Blank	99	101

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-25948-A-1-B MS	Matrix Spike	89	91
880-25948-A-1-C MSD	Matrix Spike Duplicate	87	90
890-4305-1	SW01	74	81
890-4305-2	SW02	79	91
LCS 880-48883/2-A	Lab Control Sample	117	140 S1+
LCSD 880-48883/3-A	Lab Control Sample Dup	131 S1+	156 S1+
MB 880-48883/1-A	Method Blank	134 S1+	160 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49216/5-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*

Lab Sample ID: LCS 880-49216/1-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09819		mg/Kg		98	70 - 130
Toluene	0.100	0.09454		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.08635		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1710		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08571		mg/Kg		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-49216/2-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09773		mg/Kg		98	70 - 130	0	35
Toluene	0.100	0.09731		mg/Kg		97	70 - 130	3	35
Ethylbenzene	0.100	0.08515		mg/Kg		85	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1677		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08493		mg/Kg		85	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-4305-1 MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.1082		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.0998	0.1073		mg/Kg		108	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

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

Lab Sample ID: 890-4305-1 MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.09314		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1848		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.0998	0.09348		mg/Kg		94	70 - 130

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

Lab Sample ID: 890-4305-1 MSD
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09784		mg/Kg		97	70 - 130	10	35
Toluene	<0.00200	U	0.100	0.09820		mg/Kg		98	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.100	0.08628		mg/Kg		86	70 - 130	8	35
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1710		mg/Kg		85	70 - 130	8	35
o-Xylene	<0.00200	U	0.100	0.08590		mg/Kg		86	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

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

Lab Sample ID: MB 880-48883/1-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48883

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		03/18/23 09:47	03/20/23 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	985.4		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	936.6		mg/Kg		94	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	140	S1+	70 - 130

Lab Sample ID: LCSD 880-48883/3-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1106		mg/Kg		111	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	156	S1+	70 - 130

Lab Sample ID: 880-25948-A-1-B MS
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	847.2		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	903.5		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 880-25948-A-1-C MSD
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	826.2		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	897.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48967/1-A
Matrix: Solid
Analysis Batch: 49323

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			03/22/23 20:50	1

Lab Sample ID: LCS 880-48967/2-A
Matrix: Solid
Analysis Batch: 49323

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.2		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-48967/3-A
Matrix: Solid
Analysis Batch: 49323

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	257.0		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-25949-A-1-E MS
Matrix: Solid
Analysis Batch: 49323

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	387		249	643.6		mg/Kg		103	90 - 110		

Lab Sample ID: 880-25949-A-1-F MSD
Matrix: Solid
Analysis Batch: 49323

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	387		249	652.5		mg/Kg		107	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

GC VOA

Prep Batch: 49216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	5035	
890-4305-2	SW02	Total/NA	Solid	5035	
MB 880-49216/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4305-1 MS	SW01	Total/NA	Solid	5035	
890-4305-1 MSD	SW01	Total/NA	Solid	5035	

Analysis Batch: 49289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	8021B	49216
890-4305-2	SW02	Total/NA	Solid	8021B	49216
MB 880-49216/5-A	Method Blank	Total/NA	Solid	8021B	49216
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	8021B	49216
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49216
890-4305-1 MS	SW01	Total/NA	Solid	8021B	49216
890-4305-1 MSD	SW01	Total/NA	Solid	8021B	49216

Analysis Batch: 49369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	Total BTEX	
890-4305-2	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	8015NM Prep	
890-4305-2	SW02	Total/NA	Solid	8015NM Prep	
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	8015B NM	48883
890-4305-2	SW02	Total/NA	Solid	8015B NM	48883
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015B NM	48883
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48883
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48883
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48883
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48883

Analysis Batch: 49233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Total/NA	Solid	8015 NM	
890-4305-2	SW02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

HPLC/IC

Leach Batch: 48967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Soluble	Solid	DI Leach	
890-4305-2	SW02	Soluble	Solid	DI Leach	
MB 880-48967/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48967/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48967/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-25949-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25949-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4305-1	SW01	Soluble	Solid	300.0	48967
890-4305-2	SW02	Soluble	Solid	300.0	48967
MB 880-48967/1-A	Method Blank	Soluble	Solid	300.0	48967
LCS 880-48967/2-A	Lab Control Sample	Soluble	Solid	300.0	48967
LCSD 880-48967/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48967
880-25949-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	48967
880-25949-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	48967

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Client Sample ID: SW01

Date Collected: 03/13/23 14:30
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4305-1

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	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 13:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49369	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 16:56	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	48967	03/20/23 10:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49323	03/22/23 21:48	SMC	EET MID

Client Sample ID: SW02

Date Collected: 03/13/23 15:00
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4305-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 13:52	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49369	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 17:18	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	48967	03/20/23 10:55	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	49323	03/22/23 21:53	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4305-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4305-1	SW01	Solid	03/13/23 14:30	03/14/23 09:14	0 - 4
890-4305-2	SW02	Solid	03/13/23 15:00	03/14/23 09:14	0 - 4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	
Project Number:	03A1987018	☑ Routine ☐ Rush	
Project Location:	Eddy, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	1061093901		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW01	S	3.13.23	14:30	0-4'	Comp	1	X	X	X
SW02	S	3.13.23	15:00	0-4'	Comp	1	X	X	X

890-4305 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID
NAB1528240224

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			3.14.23 914			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4305-1
SDG Number: 03A1987018

Login Number: 4305
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4305-1
SDG Number: 03A1987018

Login Number: 4305
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/25/2023 3:38:34 PM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4304-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

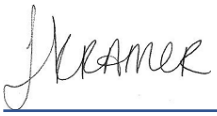
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4304-1
SDG: 03A1987018

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4304-1
Project/Site: Ross Draw Unit #034 SDG: 03A1987018

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Job ID: 890-4304-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4304-1

Receipt
The sample was received on 3/14/2023 9:14 AM. 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 0.8°C

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-48883 and analytical batch 880-48946 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48883/2-A) and (LCSD 880-48883/3-A). 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: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Client Sample ID: SW03

Date Collected: 03/13/23 16:30
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

Lab Sample ID: 890-4304-1

Matrix: Solid

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		03/22/23 16:40	03/24/23 17:26	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 17:26	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 17:26	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/22/23 16:40	03/24/23 17:26	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 17:26	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/22/23 16:40	03/24/23 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:26*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:26*	*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			03/25/23 16:18	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			03/22/23 16:11	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		03/18/23 09:47	03/20/23 16:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 16:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*03/18/23 09:47*	*03/20/23 16:33*	*1*
o-Terphenyl	*105*		*70 - 130*	*03/18/23 09:47*	*03/20/23 16:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**445**		5.04		mg/Kg			03/23/23 02:00	1

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4304-1	SW03	79	79
890-4304-1 MS	SW03	94	116
890-4304-1 MSD	SW03	90	112
LCS 880-49248/1-A	Lab Control Sample	105	108
LCSD 880-49248/2-A	Lab Control Sample Dup	117	111
MB 880-49248/5-A	Method Blank	83	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-25948-A-1-B MS	Matrix Spike	89	91
880-25948-A-1-C MSD	Matrix Spike Duplicate	87	90
890-4304-1	SW03	96	105
LCS 880-48883/2-A	Lab Control Sample	117	140 S1+
LCSD 880-48883/3-A	Lab Control Sample Dup	131 S1+	156 S1+
MB 880-48883/1-A	Method Blank	134 S1+	160 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49248/5-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 16:40	03/24/23 17:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:05*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:05*	*1*

Lab Sample ID: LCS 880-49248/1-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08686		mg/Kg		87	70 - 130
Toluene	0.100	0.08607		mg/Kg		86	70 - 130
Ethylbenzene	0.100	0.09414		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1892		mg/Kg		95	70 - 130
o-Xylene	0.100	0.09562		mg/Kg		96	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-49248/2-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1035		mg/Kg		103	70 - 130	17	35
Toluene	0.100	0.1002		mg/Kg		100	70 - 130	15	35
Ethylbenzene	0.100	0.1077		mg/Kg		108	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.2384		mg/Kg		119	70 - 130	23	35
o-Xylene	0.100	0.1201		mg/Kg		120	70 - 130	23	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-4304-1 MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: SW03
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U	0.100	0.09455		mg/Kg		94	70 - 130
Toluene	<0.00198	U	0.100	0.08044		mg/Kg		80	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

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

Lab Sample ID: 890-4304-1 MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: SW03
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.100	0.07817		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.201	0.1599		mg/Kg		80	70 - 130
o-Xylene	<0.00198	U	0.100	0.08023		mg/Kg		80	70 - 130

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

Lab Sample ID: 890-4304-1 MSD
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: SW03
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0990	0.08281		mg/Kg		84	70 - 130	13	35
Toluene	<0.00198	U	0.0990	0.07363		mg/Kg		74	70 - 130	9	35
Ethylbenzene	<0.00198	U	0.0990	0.07062		mg/Kg		71	70 - 130	10	35
m-Xylene & p-Xylene	<0.00396	U	0.198	0.1418		mg/Kg		72	70 - 130	12	35
o-Xylene	<0.00198	U	0.0990	0.07071		mg/Kg		71	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

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

Lab Sample ID: MB 880-48883/1-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48883

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		03/18/23 09:47	03/20/23 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	985.4		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	936.6		mg/Kg		94	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	140	S1+	70 - 130

Lab Sample ID: LCSD 880-48883/3-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1106		mg/Kg		111	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	156	S1+	70 - 130

Lab Sample ID: 880-25948-A-1-B MS
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	847.2		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	903.5		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 880-25948-A-1-C MSD
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	826.2		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	897.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48966/1-A
Matrix: Solid
Analysis Batch: 49317

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			03/22/23 23:40	1

Lab Sample ID: LCS 880-48966/2-A
Matrix: Solid
Analysis Batch: 49317

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.1		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-48966/3-A
Matrix: Solid
Analysis Batch: 49317

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	258.8		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 880-25948-A-11-C MS
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	272.8		mg/Kg		93	90 - 110		

Lab Sample ID: 880-25948-A-11-D MSD
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	273.2		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

GC VOA

Prep Batch: 49248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	5035	
MB 880-49248/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49248/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49248/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4304-1 MS	SW03	Total/NA	Solid	5035	
890-4304-1 MSD	SW03	Total/NA	Solid	5035	

Analysis Batch: 49405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	8021B	49248
MB 880-49248/5-A	Method Blank	Total/NA	Solid	8021B	49248
LCS 880-49248/1-A	Lab Control Sample	Total/NA	Solid	8021B	49248
LCSD 880-49248/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49248
890-4304-1 MS	SW03	Total/NA	Solid	8021B	49248
890-4304-1 MSD	SW03	Total/NA	Solid	8021B	49248

Analysis Batch: 49498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	8015NM Prep	
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	8015B NM	48883
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015B NM	48883
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48883
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48883
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48883
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48883

Analysis Batch: 49233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Soluble	Solid	DI Leach	
MB 880-48966/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

HPLC/IC (Continued)

Leach Batch: 48966 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4304-1	SW03	Soluble	Solid	300.0	48966
MB 880-48966/1-A	Method Blank	Soluble	Solid	300.0	48966
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	300.0	48966
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48966
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	300.0	48966
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	48966

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Client Sample ID: SW03
Date Collected: 03/13/23 16:30
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4304-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	49248	03/22/23 16:40	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49405	03/24/23 17:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49498	03/25/23 16:18	AJ	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 16:33	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	48966	03/20/23 10:54	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49317	03/23/23 02:00	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4304-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4304-1	SW03	Solid	03/13/23 16:30	03/14/23 09:14	0 - 4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	
Project Number:	03A1987018	☑ Routine ☐ Rush	
Project Location:	Eddy, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	1061093901		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	NM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW03	S	3.13.23	16:30	0-4'	Comp	1		X	X	X

Parameters

890-4304 Chain of Custody

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2S0_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID
NAB1528240224

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3.14.23 914	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4304-1
SDG Number: 03A1987018

Login Number: 4304
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	CHECK NCM
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4304-1
SDG Number: 03A1987018

Login Number: 4304
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/25/2023 3:38:06 PM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4303-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

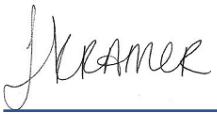
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4303-1
SDG: 03A1987018

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Job ID: 890-4303-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4303-1

Receipt
The sample was received on 3/14/2023 9:14 AM. 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 0.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW04 (890-4303-1).

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: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-48781 and analytical batch 880-48812 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48781/2-A) and (MB 880-48781/1-A). 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: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Client Sample ID: SW04

Date Collected: 03/13/23 17:00
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

Lab Sample ID: 890-4303-1

Matrix: Solid

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		03/22/23 16:40	03/24/23 18:28	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 18:28	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 18:28	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/22/23 16:40	03/24/23 18:28	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/22/23 16:40	03/24/23 18:28	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/22/23 16:40	03/24/23 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*03/22/23 16:40*	*03/24/23 18:28*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/22/23 16:40*	*03/24/23 18:28*	*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			03/25/23 16:18	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			03/21/23 09:53	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	<49.9	U *1	49.9		mg/Kg		03/16/23 15:06	03/17/23 19:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/16/23 15:06	03/17/23 19:12	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/16/23 15:06	03/17/23 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*03/16/23 15:06*	*03/17/23 19:12*	*1*
o-Terphenyl	*115*		*70 - 130*	*03/16/23 15:06*	*03/17/23 19:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**157**		4.96		mg/Kg			03/23/23 01:55	1

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4303-1	SW04	87	93
890-4304-A-1-E MS	Matrix Spike	94	116
890-4304-A-1-F MSD	Matrix Spike Duplicate	90	112
LCS 880-49248/1-A	Lab Control Sample	105	108
LCSD 880-49248/2-A	Lab Control Sample Dup	117	111
MB 880-49248/5-A	Method Blank	83	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4297-A-3-B MS	Matrix Spike	96	101
890-4297-A-3-C MSD	Matrix Spike Duplicate	112	114
890-4303-1	SW04	97	115
LCS 880-48781/2-A	Lab Control Sample	121	136 S1+
LCSD 880-48781/3-A	Lab Control Sample Dup	104	120
MB 880-48781/1-A	Method Blank	108	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49248/5-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49248

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 16:40	03/24/23 17:05	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 16:40	03/24/23 17:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:05*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/22/23 16:40*	*03/24/23 17:05*	*1*

Lab Sample ID: LCS 880-49248/1-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49248

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08686		mg/Kg		87	70 - 130		
Toluene			0.100	0.08607		mg/Kg		86	70 - 130		
Ethylbenzene			0.100	0.09414		mg/Kg		94	70 - 130		
m-Xylene & p-Xylene			0.200	0.1892		mg/Kg		95	70 - 130		
o-Xylene			0.100	0.09562		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-49248/2-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49248

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1035		mg/Kg		103	70 - 130	17	35
Toluene			0.100	0.1002		mg/Kg		100	70 - 130	15	35
Ethylbenzene			0.100	0.1077		mg/Kg		108	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.2384		mg/Kg		119	70 - 130	23	35
o-Xylene			0.100	0.1201		mg/Kg		120	70 - 130	23	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-4304-A-1-E MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U	0.100	0.09455		mg/Kg		94	70 - 130		
Toluene	<0.00198	U	0.100	0.08044		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

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

Lab Sample ID: 890-4304-A-1-E MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U	0.100	0.07817		mg/Kg		78	70 - 130
m-Xylene & p-Xylene	<0.00396	U	0.201	0.1599		mg/Kg		80	70 - 130
o-Xylene	<0.00198	U	0.100	0.08023		mg/Kg		80	70 - 130

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

Lab Sample ID: 890-4304-A-1-F MSD
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49248

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0990	0.08281		mg/Kg		84	70 - 130	13	35
Toluene	<0.00198	U	0.0990	0.07363		mg/Kg		74	70 - 130	9	35
Ethylbenzene	<0.00198	U	0.0990	0.07062		mg/Kg		71	70 - 130	10	35
m-Xylene & p-Xylene	<0.00396	U	0.198	0.1418		mg/Kg		72	70 - 130	12	35
o-Xylene	<0.00198	U	0.0990	0.07071		mg/Kg		71	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

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

Lab Sample ID: MB 880-48781/1-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48781

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		03/16/23 15:06	03/17/23 08:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1075		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1006		mg/Kg		101	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

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

Lab Sample ID: LCSD 880-48781/3-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48781

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	859.6	*1	mg/Kg		86	70 - 130	22	20
Diesel Range Organics (Over C10-C28)			1000	881.0		mg/Kg		88	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-4297-A-3-B MS
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	998	898.9		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	133		998	1034		mg/Kg		90	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: 890-4297-A-3-C MSD
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48781

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 *1	999	1011		mg/Kg		96	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	133		999	1176		mg/Kg		104	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	114		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48966/1-A
Matrix: Solid
Analysis Batch: 49317

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			03/22/23 23:40	1

Lab Sample ID: LCS 880-48966/2-A
Matrix: Solid
Analysis Batch: 49317

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.1		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-48966/3-A
Matrix: Solid
Analysis Batch: 49317

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	258.8		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 880-25948-A-11-C MS
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	272.8		mg/Kg		93	90 - 110		

Lab Sample ID: 880-25948-A-11-D MSD
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	273.2		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

GC VOA

Prep Batch: 49248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	5035	
MB 880-49248/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49248/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49248/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4304-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-4304-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	8021B	49248
MB 880-49248/5-A	Method Blank	Total/NA	Solid	8021B	49248
LCS 880-49248/1-A	Lab Control Sample	Total/NA	Solid	8021B	49248
LCSD 880-49248/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49248
890-4304-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	49248
890-4304-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49248

Analysis Batch: 49500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	8015NM Prep	
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	8015B NM	48781
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015B NM	48781
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48781
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48781
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48781
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48781

Analysis Batch: 49094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Soluble	Solid	DI Leach	
MB 880-48966/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

HPLC/IC (Continued)

Leach Batch: 48966 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4303-1	SW04	Soluble	Solid	300.0	48966
MB 880-48966/1-A	Method Blank	Soluble	Solid	300.0	48966
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	300.0	48966
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48966
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	300.0	48966
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	48966

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Client Sample ID: SW04
Date Collected: 03/13/23 17:00
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4303-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	49248	03/22/23 16:40	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49405	03/24/23 18:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49500	03/25/23 16:18	AJ	EET MID
Total/NA	Analysis	8015 NM		1			49094	03/21/23 09:53	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48781	03/16/23 15:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48812	03/17/23 19:12	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	48966	03/20/23 10:54	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49317	03/23/23 01:55	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4303-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4303-1	SW04	Solid	03/13/23 17:00	03/14/23 09:14	0 - 4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987018	Due Date:	5 Day TAT
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061093901		

SAMPLE RECEIPT

Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	NM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW04	S	3.13.23	17:00	0-4'	Comp	1		X	X	X

890-4303 Chain of Custody

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2S0_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID
NAB1528240224

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3.14.23 914	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4303-1
SDG Number: 03A1987018

Login Number: 4303
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	CHECK NCM
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4303-1
SDG Number: 03A1987018

Login Number: 4303
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/24/2023 9:28:01 AM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4302-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

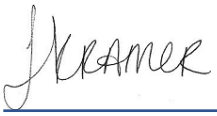
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/24/2023 9:28:01 AM

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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4302-1
SDG: 03A1987018

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4302-1
Project/Site: Ross Draw Unit #034 SDG: 03A1987018

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Job ID: 890-4302-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4302-1

Receipt
The sample was received on 3/14/2023 9:14 AM. 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 0.8°C

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

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-48781 and analytical batch 880-48812 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48781/2-A) and (MB 880-48781/1-A). 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: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Client Sample ID: SW05

Date Collected: 03/13/23 17:30
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

Lab Sample ID: 890-4302-1

Matrix: Solid

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		03/22/23 13:23	03/23/23 19:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 19:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 19:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 19:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 19:27	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*03/22/23 13:23*	*03/23/23 19:27*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*03/22/23 13:23*	*03/23/23 19:27*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/24/23 10:11	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			03/21/23 09:53	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 *1	50.0		mg/Kg		03/16/23 15:06	03/17/23 18:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 18:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*03/16/23 15:06*	*03/17/23 18:50*	*1*
o-Terphenyl	*106*		*70 - 130*	*03/16/23 15:06*	*03/17/23 18:50*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**520**		4.97		mg/Kg			03/23/23 01:51	1

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4302-1	SW05	120	102
890-4305-A-1-E MS	Matrix Spike	113	113
890-4305-A-1-F MSD	Matrix Spike Duplicate	114	110
LCS 880-49216/1-A	Lab Control Sample	102	108
LCSD 880-49216/2-A	Lab Control Sample Dup	102	108
MB 880-49216/5-A	Method Blank	99	101

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4297-A-3-B MS	Matrix Spike	96	101
890-4297-A-3-C MSD	Matrix Spike Duplicate	112	114
890-4302-1	SW05	91	106
LCS 880-48781/2-A	Lab Control Sample	121	136 S1+
LCSD 880-48781/3-A	Lab Control Sample Dup	104	120
MB 880-48781/1-A	Method Blank	108	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49216/5-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*

Lab Sample ID: LCS 880-49216/1-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09819		mg/Kg		98	70 - 130
Toluene	0.100	0.09454		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.08635		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1710		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08571		mg/Kg		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-49216/2-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09773		mg/Kg		98	70 - 130	0	35
Toluene	0.100	0.09731		mg/Kg		97	70 - 130	3	35
Ethylbenzene	0.100	0.08515		mg/Kg		85	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1677		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08493		mg/Kg		85	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-4305-A-1-E MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.1082		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.0998	0.1073		mg/Kg		108	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

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

Lab Sample ID: 890-4305-A-1-E MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.09314		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1848		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.0998	0.09348		mg/Kg		94	70 - 130

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

Lab Sample ID: 890-4305-A-1-F MSD
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09784		mg/Kg		97	70 - 130	10	35
Toluene	<0.00200	U	0.100	0.09820		mg/Kg		98	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.100	0.08628		mg/Kg		86	70 - 130	8	35
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1710		mg/Kg		85	70 - 130	8	35
o-Xylene	<0.00200	U	0.100	0.08590		mg/Kg		86	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

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

Lab Sample ID: MB 880-48781/1-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48781

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		03/16/23 15:06	03/17/23 08:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1075		mg/Kg		107	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1006		mg/Kg		101	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

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

Lab Sample ID: LCSD 880-48781/3-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48781

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	859.6	*1	mg/Kg		86	70 - 130	22	20
Diesel Range Organics (Over C10-C28)			1000	881.0		mg/Kg		88	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-4297-A-3-B MS
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	998	898.9		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	133		998	1034		mg/Kg		90	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	96		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: 890-4297-A-3-C MSD
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48781

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 *1	999	1011		mg/Kg		96	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	133		999	1176		mg/Kg		104	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenyl	114		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48966/1-A
Matrix: Solid
Analysis Batch: 49317

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			03/22/23 23:40	1

Lab Sample ID: LCS 880-48966/2-A
Matrix: Solid
Analysis Batch: 49317

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.1		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-48966/3-A
Matrix: Solid
Analysis Batch: 49317

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	258.8		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 880-25948-A-11-C MS
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	272.8		mg/Kg		93	90 - 110		

Lab Sample ID: 880-25948-A-11-D MSD
Matrix: Solid
Analysis Batch: 49317

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	42.7		248	273.2		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

GC VOA

Prep Batch: 49216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	5035	
MB 880-49216/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4305-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-4305-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	8021B	49216
MB 880-49216/5-A	Method Blank	Total/NA	Solid	8021B	49216
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	8021B	49216
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49216
890-4305-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	49216
890-4305-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49216

Analysis Batch: 49389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	8015NM Prep	
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	8015B NM	48781
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015B NM	48781
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48781
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48781
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48781
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48781

Analysis Batch: 49094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Soluble	Solid	DI Leach	
MB 880-48966/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

HPLC/IC (Continued)

Leach Batch: 48966 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4302-1	SW05	Soluble	Solid	300.0	48966
MB 880-48966/1-A	Method Blank	Soluble	Solid	300.0	48966
LCS 880-48966/2-A	Lab Control Sample	Soluble	Solid	300.0	48966
LCSD 880-48966/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48966
880-25948-A-11-C MS	Matrix Spike	Soluble	Solid	300.0	48966
880-25948-A-11-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	48966

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Client Sample ID: SW05

Date Collected: 03/13/23 17:30
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4302-1

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	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 19:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49389	03/24/23 10:11	AJ	EET MID
Total/NA	Analysis	8015 NM		1			49094	03/21/23 09:53	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	48781	03/16/23 15:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48812	03/17/23 18:50	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	48966	03/20/23 10:54	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49317	03/23/23 01:51	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4302-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4302-1	SW05	Solid	03/13/23 17:30	03/14/23 09:14	0 - 4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	
Project Number:	03A1987018	☑ Routine ☐ Rush	
Project Location:	Eddy, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	1061093901		

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW05	S	3.13.23	17:30	0-4'	Comp	1		X	X	X

890-4302 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID
NAB1528240224

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3-14-23 9:14	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4302-1
SDG Number: 03A1987018

Login Number: 4302
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	CHECK NCM
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4302-1
SDG Number: 03A1987018

Login Number: 4302
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/26/2023 8:18:08 AM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4301-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

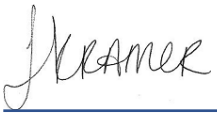
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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3/26/2023 8:18:08 AM

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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4301-1
SDG: 03A1987018

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Qualifiers

GC VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Job ID: 890-4301-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4301-1

Receipt
The sample was received on 3/14/2023 9:14 AM. 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 0.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SW06 (890-4301-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-4375-A-1-A MS). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-48781 and analytical batch 880-48812 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48781/2-A) and (MB 880-48781/1-A). 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: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Client Sample ID: SW06

Date Collected: 03/13/23 18:00
Date Received: 03/14/23 09:14
Sample Depth: 0 - 4

Lab Sample ID: 890-4301-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+ *1	0.00200		mg/Kg		03/22/23 13:25	03/25/23 20:55	1
Toluene	<0.00200	U *+ *1	0.00200		mg/Kg		03/22/23 13:25	03/25/23 20:55	1
Ethylbenzene	<0.00200	U *+ *1	0.00200		mg/Kg		03/22/23 13:25	03/25/23 20:55	1
m-Xylene & p-Xylene	<0.00401	U *+ *1	0.00401		mg/Kg		03/22/23 13:25	03/25/23 20:55	1
o-Xylene	**0.00421**	***+ *1**	0.00200		mg/Kg		03/22/23 13:25	03/25/23 20:55	1
Xylenes, Total	**0.00421**	***+ *1**	0.00401		mg/Kg		03/22/23 13:25	03/25/23 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*03/22/23 13:25*	*03/25/23 20:55*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*03/22/23 13:25*	*03/25/23 20:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00421**		0.00401		mg/Kg			03/26/23 08:53	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			03/21/23 09:53	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	<49.9	U *1	49.9		mg/Kg		03/16/23 15:06	03/17/23 18:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/16/23 15:06	03/17/23 18:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/16/23 15:06	03/17/23 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*03/16/23 15:06*	*03/17/23 18:28*	*1*
o-Terphenyl	*107*		*70 - 130*	*03/16/23 15:06*	*03/17/23 18:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.01**		4.98		mg/Kg			03/22/23 21:34	1

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4301-1	SW06	104	82
890-4375-A-1-A MS	Matrix Spike	52 S1-	107
890-4375-A-1-B MSD	Matrix Spike Duplicate	113	108
LCS 880-49217/1-A	Lab Control Sample	112	106
MB 880-49025/5-A	Method Blank	76	78
MB 880-49217/5-A	Method Blank	84	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4297-A-3-B MS	Matrix Spike	96	101
890-4297-A-3-C MSD	Matrix Spike Duplicate	112	114
890-4301-1	SW06	92	107
LCS 880-48781/2-A	Lab Control Sample	121	136 S1+
LCSD 880-48781/3-A	Lab Control Sample Dup	104	120
MB 880-48781/1-A	Method Blank	108	133 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49025/5-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/20/23 14:56	03/25/23 03:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/20/23 14:56	03/25/23 03:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/20/23 14:56	03/25/23 03:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/20/23 14:56	03/25/23 03:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/20/23 14:56	03/25/23 03:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/20/23 14:56	03/25/23 03:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*03/20/23 14:56*	*03/25/23 03:42*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*03/20/23 14:56*	*03/25/23 03:42*	*1*

Lab Sample ID: MB 880-49217/5-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49217

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:25	03/25/23 14:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:25	03/25/23 14:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:25	03/25/23 14:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 13:25	03/25/23 14:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:25	03/25/23 14:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 13:25	03/25/23 14:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*03/22/23 13:25*	*03/25/23 14:44*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/22/23 13:25*	*03/25/23 14:44*	*1*

Lab Sample ID: LCS 880-49217/1-A
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49217

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09425		mg/Kg		94	70 - 130
Toluene	0.100	0.09427		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.09713		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	0.200	0.2107		mg/Kg		105	70 - 130
o-Xylene	0.100	0.1385	*+	mg/Kg		138	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-4375-A-1-A MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49217

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00198	U *+ *1	0.0998	0.08994		mg/Kg		90	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

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

Lab Sample ID: 890-4375-A-1-A MS
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49217

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	<0.00198	U *+ *1	0.0998	0.08380		mg/Kg		84	70 - 130
Ethylbenzene	<0.00198	U *+ *1	0.0998	0.07975		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	<0.00396	U *+ *1	0.200	0.1711		mg/Kg		86	70 - 130
o-Xylene	<0.00198	U *+ *1	0.0998	0.09393		mg/Kg		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*52*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-4375-A-1-B MSD
Matrix: Solid
Analysis Batch: 49405

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49217

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U *+ *1	0.100	0.09078		mg/Kg		90	70 - 130	1	35
Toluene	<0.00198	U *+ *1	0.100	0.08342		mg/Kg		83	70 - 130	0	35
Ethylbenzene	<0.00198	U *+ *1	0.100	0.08171		mg/Kg		81	70 - 130	2	35
m-Xylene & p-Xylene	<0.00396	U *+ *1	0.201	0.1754		mg/Kg		87	70 - 130	2	35
o-Xylene	<0.00198	U *+ *1	0.100	0.09620		mg/Kg		96	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-48781/1-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48781

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		03/16/23 15:06	03/17/23 08:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/16/23 15:06	03/17/23 08:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*03/16/23 15:06*	*03/17/23 08:28*	*1*

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1075		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48781/2-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48781

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics (Over C10-C28)			1000	1006		mg/Kg		101	70 - 130		

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

Lab Sample ID: LCSD 880-48781/3-A
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48781

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	859.6	*1	mg/Kg		86	70 - 130	22	20
Diesel Range Organics (Over C10-C28)			1000	881.0		mg/Kg		88	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Lab Sample ID: 890-4297-A-3-B MS
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48781

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	998	898.9		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	133		998	1034		mg/Kg		90	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Lab Sample ID: 890-4297-A-3-C MSD
Matrix: Solid
Analysis Batch: 48812

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48781

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 *1	999	1011		mg/Kg		96	70 - 130	12	20
Diesel Range Organics (Over C10-C28)	133		999	1176		mg/Kg		104	70 - 130	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*114*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48967/1-A
Matrix: Solid
Analysis Batch: 49323

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			03/22/23 20:50	1

Lab Sample ID: LCS 880-48967/2-A
Matrix: Solid
Analysis Batch: 49323

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.2		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-48967/3-A
Matrix: Solid
Analysis Batch: 49323

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	257.0		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-25949-A-1-E MS
Matrix: Solid
Analysis Batch: 49323

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	387		249	643.6		mg/Kg		103	90 - 110		

Lab Sample ID: 880-25949-A-1-F MSD
Matrix: Solid
Analysis Batch: 49323

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	387		249	652.5		mg/Kg		107	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

GC VOA

Prep Batch: 49025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-49025/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 49217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	5035	
MB 880-49217/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49217/1-A	Lab Control Sample	Total/NA	Solid	5035	
890-4375-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
890-4375-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	8021B	49217
MB 880-49025/5-A	Method Blank	Total/NA	Solid	8021B	49025
MB 880-49217/5-A	Method Blank	Total/NA	Solid	8021B	49217
LCS 880-49217/1-A	Lab Control Sample	Total/NA	Solid	8021B	49217
890-4375-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	49217
890-4375-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49217

Analysis Batch: 49525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	8015NM Prep	
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 48812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	8015B NM	48781
MB 880-48781/1-A	Method Blank	Total/NA	Solid	8015B NM	48781
LCS 880-48781/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48781
LCSD 880-48781/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48781
890-4297-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48781
890-4297-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48781

Analysis Batch: 49094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

HPLC/IC (Continued)

Leach Batch: 48967 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-48967/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48967/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48967/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-25949-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-25949-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 49323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4301-1	SW06	Soluble	Solid	300.0	48967
MB 880-48967/1-A	Method Blank	Soluble	Solid	300.0	48967
LCS 880-48967/2-A	Lab Control Sample	Soluble	Solid	300.0	48967
LCSD 880-48967/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48967
880-25949-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	48967
880-25949-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	48967

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Client Sample ID: SW06
Date Collected: 03/13/23 18:00
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4301-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49217	03/22/23 13:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49405	03/25/23 20:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49525	03/26/23 08:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			49094	03/21/23 09:53	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48781	03/16/23 15:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48812	03/17/23 18:28	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	48967	03/20/23 10:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49323	03/22/23 21:34	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4301-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4301-1	SW06	Solid	03/13/23 18:00	03/14/23 09:14	0 - 4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987018	Due Date:	5 Day TAT
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061093901		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SW06	S	3.13.23	18:00	0-4'	Comp	1		X	X	X	

ANALYSIS REQUEST

890-4301 Chain of Custody

Incident ID
NAB1528240224

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			3-14-23 914	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4301-1
SDG Number: 03A1987018

Login Number: 4301
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	CHECK NCM
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4301-1
SDG Number: 03A1987018

Login Number: 4301
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/24/2023 9:18:20 AM

JOB DESCRIPTION

Ross Draw Unit #034
SDG NUMBER 03A1987018

JOB NUMBER

890-4306-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

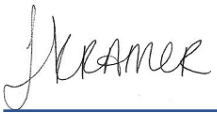
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
3/24/2023 9:18:20 AM

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

Client: Ensolum
Project/Site: Ross Draw Unit #034

Laboratory Job ID: 890-4306-1
SDG: 03A1987018

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Job ID: 890-4306-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4306-1

Receipt
The samples were received on 3/14/2023 9:14 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 0.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4306-1), FS02 (890-4306-2), FS03 (890-4306-3), FS04 (890-4306-4), FS05 (890-4306-5) and FS06 (890-4306-6).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: FS02 (890-4306-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-48883 and analytical batch 880-48946 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-48883/2-A) and (LCSD 880-48883/3-A). 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: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS01

Lab Sample ID: 890-4306-1
Matrix: Solid
Date Collected: 03/13/23 15:30
Date Received: 03/14/23 09:14
Sample Depth: 4

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		03/22/23 13:23	03/23/23 14:13	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/22/23 13:23	03/23/23 14:13	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/22/23 13:23	03/23/23 14:13	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/22/23 13:23	03/23/23 14:13	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/22/23 13:23	03/23/23 14:13	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/22/23 13:23	03/23/23 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*03/22/23 13:23*	*03/23/23 14:13*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*03/22/23 13:23*	*03/23/23 14:13*	*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			03/24/23 08:51	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			03/22/23 16:11	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	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:39	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*03/18/23 09:47*	*03/20/23 17:39*	*1*
o-Terphenyl	*91*		*70 - 130*	*03/18/23 09:47*	*03/20/23 17:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**557**		5.03		mg/Kg			03/22/23 18:36	1

Client Sample ID: FS02

Lab Sample ID: 890-4306-2
Matrix: Solid
Date Collected: 03/13/23 16:00
Date Received: 03/14/23 09:14
Sample Depth: 4

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		03/22/23 13:23	03/23/23 14:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 14:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 14:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/22/23 13:23	03/23/23 14:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 14:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/22/23 13:23	03/23/23 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*03/22/23 13:23*	*03/23/23 14:33*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS02

Lab Sample ID: 890-4306-2
Matrix: Solid
Date Collected: 03/13/23 16:00
Date Received: 03/14/23 09:14
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*03/22/23 13:23*	*03/23/23 14:33*	*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			03/24/23 08:51	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			03/22/23 16:11	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		03/18/23 09:47	03/20/23 18:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 18:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:00*	*1*
o-Terphenyl	*95*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**509**		25.0		mg/Kg			03/22/23 18:51	5

Client Sample ID: FS03

Lab Sample ID: 890-4306-3
Matrix: Solid
Date Collected: 03/13/23 18:05
Date Received: 03/14/23 09:14
Sample Depth: 4

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		03/22/23 13:23	03/23/23 14:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 14:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 14:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 14:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 14:53	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/22/23 13:23	03/23/23 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*03/22/23 13:23*	*03/23/23 14:53*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*03/22/23 13:23*	*03/23/23 14:53*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			03/24/23 08:51	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			03/22/23 16:11	1

Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS03

Lab Sample ID: 890-4306-3
Matrix: Solid
Date Collected: 03/13/23 18:05
Date Received: 03/14/23 09:14
Sample Depth: 4

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		03/18/23 09:47	03/20/23 18:22	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 18:22	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:22*	*1*
o-Terphenyl	*104*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		5.05		mg/Kg			03/22/23 18:56	1

Client Sample ID: FS04

Lab Sample ID: 890-4306-4
Matrix: Solid
Date Collected: 03/13/23 18:10
Date Received: 03/14/23 09:14
Sample Depth: 4

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		03/22/23 13:23	03/23/23 15:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 15:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 15:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/22/23 13:23	03/23/23 15:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/22/23 13:23	03/23/23 15:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/22/23 13:23	03/23/23 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:14*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:14*	*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			03/24/23 08:51	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			03/22/23 16:11	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	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 18:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 18:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:43*	*1*
o-Terphenyl	*102*		*70 - 130*	*03/18/23 09:47*	*03/20/23 18:43*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS04

Lab Sample ID: 890-4306-4
Matrix: Solid
Date Collected: 03/13/23 18:10
Date Received: 03/14/23 09:14
Sample Depth: 4

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2090		24.8		mg/Kg			03/22/23 19:01	5

Client Sample ID: FS05

Lab Sample ID: 890-4306-5
Matrix: Solid
Date Collected: 03/13/23 18:20
Date Received: 03/14/23 09:14
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 15:34	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 15:34	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 15:34	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/22/23 13:23	03/23/23 15:34	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/22/23 13:23	03/23/23 15:34	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/22/23 13:23	03/23/23 15:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:34*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:34*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			03/24/23 08:51	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			03/22/23 16:11	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		03/18/23 09:47	03/20/23 19:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 19:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 19:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*03/18/23 09:47*	*03/20/23 19:04*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/18/23 09:47*	*03/20/23 19:04*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12.7		5.03		mg/Kg			03/22/23 19:06	1

Client Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS06

Date Collected: 03/13/23 18:30
Date Received: 03/14/23 09:14
Sample Depth: 4

Lab Sample ID: 890-4306-6

Matrix: Solid

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		03/22/23 13:23	03/23/23 15:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 15:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 15:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/22/23 13:23	03/23/23 15:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 15:55	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/22/23 13:23	03/23/23 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:55*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*03/22/23 13:23*	*03/23/23 15:55*	*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			03/24/23 08:51	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			03/22/23 16:11	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	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 19:25	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 19:25	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/18/23 09:47	03/20/23 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*03/18/23 09:47*	*03/20/23 19:25*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/18/23 09:47*	*03/20/23 19:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**657**		5.05		mg/Kg			03/22/23 19:20	1

Surrogate Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4305-A-1-E MS	Matrix Spike	113	113
890-4305-A-1-F MSD	Matrix Spike Duplicate	114	110
890-4306-1	FS01	110	106
890-4306-2	FS02	138 S1+	112
890-4306-3	FS03	119	107
890-4306-4	FS04	116	110
890-4306-5	FS05	114	105
890-4306-6	FS06	117	107
LCS 880-49216/1-A	Lab Control Sample	102	108
LCSD 880-49216/2-A	Lab Control Sample Dup	102	108
MB 880-49216/5-A	Method Blank	99	101

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-25948-A-1-B MS	Matrix Spike	89	91
880-25948-A-1-C MSD	Matrix Spike Duplicate	87	90
890-4306-1	FS01	81	91
890-4306-2	FS02	86	95
890-4306-3	FS03	91	104
890-4306-4	FS04	91	102
890-4306-5	FS05	87	99
890-4306-6	FS06	86	99
LCS 880-48883/2-A	Lab Control Sample	117	140 S1+
LCSD 880-48883/3-A	Lab Control Sample Dup	131 S1+	156 S1+
MB 880-48883/1-A	Method Blank	134 S1+	160 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49216/5-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/22/23 13:23	03/23/23 12:26	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/22/23 13:23	03/23/23 12:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*03/22/23 13:23*	*03/23/23 12:26*	*1*

Lab Sample ID: LCS 880-49216/1-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09819		mg/Kg		98	70 - 130
Toluene	0.100	0.09454		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.08635		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1710		mg/Kg		85	70 - 130
o-Xylene	0.100	0.08571		mg/Kg		86	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-49216/2-A
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09773		mg/Kg		98	70 - 130	0	35
Toluene	0.100	0.09731		mg/Kg		97	70 - 130	3	35
Ethylbenzene	0.100	0.08515		mg/Kg		85	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1677		mg/Kg		84	70 - 130	2	35
o-Xylene	0.100	0.08493		mg/Kg		85	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 890-4305-A-1-E MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0998	0.1082		mg/Kg		108	70 - 130
Toluene	<0.00200	U	0.0998	0.1073		mg/Kg		108	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

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

Lab Sample ID: 890-4305-A-1-E MS
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.09314		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1848		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.0998	0.09348		mg/Kg		94	70 - 130

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

Lab Sample ID: 890-4305-A-1-F MSD
Matrix: Solid
Analysis Batch: 49289

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 49216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09784		mg/Kg		97	70 - 130	10	35
Toluene	<0.00200	U	0.100	0.09820		mg/Kg		98	70 - 130	9	35
Ethylbenzene	<0.00200	U	0.100	0.08628		mg/Kg		86	70 - 130	8	35
m-Xylene & p-Xylene	<0.00399	U	0.201	0.1710		mg/Kg		85	70 - 130	8	35
o-Xylene	<0.00200	U	0.100	0.08590		mg/Kg		86	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

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

Lab Sample ID: MB 880-48883/1-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48883

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		03/18/23 09:47	03/20/23 08:39	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/18/23 09:47	03/20/23 08:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*03/18/23 09:47*	*03/20/23 08:39*	*1*

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	985.4		mg/Kg		99	70 - 130
Diesel Range Organics (Over C10-C28)	1000	936.6		mg/Kg		94	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

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

Lab Sample ID: LCS 880-48883/2-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48883

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	140	S1+	70 - 130

Lab Sample ID: LCSD 880-48883/3-A
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1106		mg/Kg		111	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	131	S1+	70 - 130
o-Terphenyl	156	S1+	70 - 130

Lab Sample ID: 880-25948-A-1-B MS
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	847.2		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	903.5		mg/Kg		88	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 880-25948-A-1-C MSD
Matrix: Solid
Analysis Batch: 48946

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 48883

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	826.2		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	897.5		mg/Kg		88	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48964/1-A
Matrix: Solid
Analysis Batch: 49308

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			03/22/23 18:22	1

Lab Sample ID: LCS 880-48964/2-A
Matrix: Solid
Analysis Batch: 49308

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.8		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-48964/3-A
Matrix: Solid
Analysis Batch: 49308

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	245.5		mg/Kg		98	90 - 110	2	20

Lab Sample ID: 890-4306-1 MS
Matrix: Solid
Analysis Batch: 49308

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	557		252	807.1		mg/Kg		99	90 - 110		

Lab Sample ID: 890-4306-1 MSD
Matrix: Solid
Analysis Batch: 49308

Client Sample ID: FS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	557		252	805.9		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

GC VOA

Prep Batch: 49216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	5035	
890-4306-2	FS02	Total/NA	Solid	5035	
890-4306-3	FS03	Total/NA	Solid	5035	
890-4306-4	FS04	Total/NA	Solid	5035	
890-4306-5	FS05	Total/NA	Solid	5035	
890-4306-6	FS06	Total/NA	Solid	5035	
MB 880-49216/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4305-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-4305-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 49289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	8021B	49216
890-4306-2	FS02	Total/NA	Solid	8021B	49216
890-4306-3	FS03	Total/NA	Solid	8021B	49216
890-4306-4	FS04	Total/NA	Solid	8021B	49216
890-4306-5	FS05	Total/NA	Solid	8021B	49216
890-4306-6	FS06	Total/NA	Solid	8021B	49216
MB 880-49216/5-A	Method Blank	Total/NA	Solid	8021B	49216
LCS 880-49216/1-A	Lab Control Sample	Total/NA	Solid	8021B	49216
LCSD 880-49216/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49216
890-4305-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	49216
890-4305-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49216

Analysis Batch: 49370

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	Total BTEX	
890-4306-2	FS02	Total/NA	Solid	Total BTEX	
890-4306-3	FS03	Total/NA	Solid	Total BTEX	
890-4306-4	FS04	Total/NA	Solid	Total BTEX	
890-4306-5	FS05	Total/NA	Solid	Total BTEX	
890-4306-6	FS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 48883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	8015NM Prep	
890-4306-2	FS02	Total/NA	Solid	8015NM Prep	
890-4306-3	FS03	Total/NA	Solid	8015NM Prep	
890-4306-4	FS04	Total/NA	Solid	8015NM Prep	
890-4306-5	FS05	Total/NA	Solid	8015NM Prep	
890-4306-6	FS06	Total/NA	Solid	8015NM Prep	
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

GC Semi VOA

Analysis Batch: 48946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	8015B NM	48883
890-4306-2	FS02	Total/NA	Solid	8015B NM	48883
890-4306-3	FS03	Total/NA	Solid	8015B NM	48883
890-4306-4	FS04	Total/NA	Solid	8015B NM	48883
890-4306-5	FS05	Total/NA	Solid	8015B NM	48883
890-4306-6	FS06	Total/NA	Solid	8015B NM	48883
MB 880-48883/1-A	Method Blank	Total/NA	Solid	8015B NM	48883
LCS 880-48883/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	48883
LCSD 880-48883/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	48883
880-25948-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	48883
880-25948-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	48883

Analysis Batch: 49233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Total/NA	Solid	8015 NM	
890-4306-2	FS02	Total/NA	Solid	8015 NM	
890-4306-3	FS03	Total/NA	Solid	8015 NM	
890-4306-4	FS04	Total/NA	Solid	8015 NM	
890-4306-5	FS05	Total/NA	Solid	8015 NM	
890-4306-6	FS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 48964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Soluble	Solid	DI Leach	
890-4306-2	FS02	Soluble	Solid	DI Leach	
890-4306-3	FS03	Soluble	Solid	DI Leach	
890-4306-4	FS04	Soluble	Solid	DI Leach	
890-4306-5	FS05	Soluble	Solid	DI Leach	
890-4306-6	FS06	Soluble	Solid	DI Leach	
MB 880-48964/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-48964/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-48964/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4306-1 MS	FS01	Soluble	Solid	DI Leach	
890-4306-1 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 49308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4306-1	FS01	Soluble	Solid	300.0	48964
890-4306-2	FS02	Soluble	Solid	300.0	48964
890-4306-3	FS03	Soluble	Solid	300.0	48964
890-4306-4	FS04	Soluble	Solid	300.0	48964
890-4306-5	FS05	Soluble	Solid	300.0	48964
890-4306-6	FS06	Soluble	Solid	300.0	48964
MB 880-48964/1-A	Method Blank	Soluble	Solid	300.0	48964
LCS 880-48964/2-A	Lab Control Sample	Soluble	Solid	300.0	48964
LCSD 880-48964/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	48964
890-4306-1 MS	FS01	Soluble	Solid	300.0	48964
890-4306-1 MSD	FS01	Soluble	Solid	300.0	48964

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS01
Date Collected: 03/13/23 15:30
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 14:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 17:39	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49308	03/22/23 18:36	SMC	EET MID

Client Sample ID: FS02
Date Collected: 03/13/23 16:00
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 14:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 18:00	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	49308	03/22/23 18:51	SMC	EET MID

Client Sample ID: FS03
Date Collected: 03/13/23 18:05
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 14:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 18:22	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49308	03/22/23 18:56	SMC	EET MID

Client Sample ID: FS04
Date Collected: 03/13/23 18:10
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 15:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Client Sample ID: FS04

Date Collected: 03/13/23 18:10
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 18:43	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	49308	03/22/23 19:01	SMC	EET MID

Client Sample ID: FS05

Date Collected: 03/13/23 18:20
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 15:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 19:04	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49308	03/22/23 19:06	SMC	EET MID

Client Sample ID: FS06

Date Collected: 03/13/23 18:30
Date Received: 03/14/23 09:14

Lab Sample ID: 890-4306-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	49216	03/22/23 13:23	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	49289	03/23/23 15:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			49370	03/24/23 08:51	MNR	EET MID
Total/NA	Analysis	8015 NM		1			49233	03/22/23 16:11	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	48883	03/18/23 09:47	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	48946	03/20/23 19:25	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	48964	03/20/23 10:51	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49308	03/22/23 19:20	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

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

Method Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ross Draw Unit #034

Job ID: 890-4306-1
SDG: 03A1987018

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4306-1	FS01	Solid	03/13/23 15:30	03/14/23 09:14	4
890-4306-2	FS02	Solid	03/13/23 16:00	03/14/23 09:14	4
890-4306-3	FS03	Solid	03/13/23 18:05	03/14/23 09:14	4
890-4306-4	FS04	Solid	03/13/23 18:10	03/14/23 09:14	4
890-4306-5	FS05	Solid	03/13/23 18:20	03/14/23 09:14	4
890-4306-6	FS06	Solid	03/13/23 18:30	03/14/23 09:14	4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments

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

Project Name:	Ross Draw Unit #034	Turn Around	
Project Number:	03A1987018	☑ Routine ☐ Rush	
Project Location:	Eddy, NM	Due Date:	5 Day TAT
Sampler's Name:	Gilbert Moreno	TAT starts the day received by the lab, if received by 4:30pm	
CC #:	1061093901		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	WM507
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.0
Total Containers:		Corrected Temperature:	0.8

Preservative Codes

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

890-4306 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS01	S	3.13.23	15:30	4'	Comp	1		X	X	X
FS02	S	3.13.23	16:00	4'	Comp	1		X	X	X
FS03	S	3.13.23	18:05	4'	Comp	1		X	X	X
FS04	S	3.13.23	18:10	4'	Comp	1		X	X	X
FS05	S	3.13.23	18:20	4'	Comp	1		X	X	X
FS06	S	3.13.23	18:30	4'	Comp	1		X	X	X

Parameters

Sample Comments

Incident ID
NAB1528240224

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		3-14-23 914	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4306-1
SDG Number: 03A1987018

Login Number: 4306
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4306-1
SDG Number: 03A1987018

Login Number: 4306
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 03/15/23 11:19 AM

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

ENSOLUM

APPENDIX D

Email Correspondence

Erick Herrera

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Wednesday, March 8, 2023 5:06 PM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Subject: RE: [EXTERNAL] WPX Site Sampling Activity Update (3/13 - 3/17/2023)

[**EXTERNAL EMAIL**]

Erick,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Erick Herrera <eherrera@ensolum.com>
Sent: Wednesday, March 8, 2023 3:53 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO_Spill, BLM_NM' <blm_nm_cfo_spill@blm.gov>
Cc: Raley, Jim <jim.raley@dvn.com>; Devon Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (3/13 - 3/17/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following site between March 13 – March 17, 2023:

Site Name: Ross Draw Unit #034
API: 30-015-41578
Incident Number: NAB1528240224

Thank you,

Erick Herrera

From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Thursday, March 23, 2023 12:48 PM
To: OCDOnline@state.nm.us
Cc: Devon Team
Subject: RDU 34 Extension Request -- NAB1528240224

[**EXTERNAL EMAIL**]

WPX Energy Permian, LLC (WPX) is requesting an extension to the current deadline for a closure report required in 19.15.29.12.B.(1) NMAC at the Ross Draw Unit #034.

A produced water release was discovered on October 6, 2015 and assigned Incident Number NAB1528240224. A remediation work plan (RWP) to address this release was approved by the New Mexico Oil Conservation Division on December 29, 2022. WPX conducted remediation efforts following an approved sundry request to access off pad areas impacted by the subject release. Remediation activities are complete pending laboratory analytical results.

To provide enough time for review of confirmation soil results and to complete a closure report, WPX requests an extension of the deadline to **June 27, 2023.**

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@dvn.com

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

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

CONDITIONS

Action 231344

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 231344
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAB1528240224 ROSS DRAW UNIT 34, thank you. This closure is approved.	11/29/2023