ENSOLUM

CLOSURE REQUEST REPORT

Site Location:

EP USA 3
Eddy County, New Mexico
Incident Number:
nAB1622531873

May 11, 2023
Ensolum Project No. 03A1987053

Prepared for:

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

Prepared by:

Ashley N. Giovengo
Senior Engineer

Daniel R. Moir, PG
Senior Managing Geologist

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1.0 INTRODUCTION

1.1 Site Description

Ensolum, LLC (Ensolum) has prepared this *Closure Request Report* (CRR) to document assessment and corrective actions performed to date, and subsequent soil sampling activities conducted for WPX Energy Permian, LLC (WPX) at the EP USA 3 (Site), located in Unit I, Section 26, Township 26 South, Range 29 East, in Eddy County, New Mexico (**Figure 1**). Based on all remedial actions and results of soil sampling events completed for the release of crude oil and produced water at the Site, WPX respectfully requests no further action (NFA) for Incident Number nAB1622531873.

On May 10, 2019, a *Closure Request* (CR), authored by LT Environmental, Inc. (LTE), was submitted to the New Mexico Oil Conservation Division (NMOCD) for the release; however, WPX did not receive a response from NMOCD. Since the submittal of the CR, WPX has decommissioned the Site and reclaimed the pad area. As a result, WPX reassessed field activities previously completed and determined additional remedial actions were warranted due to the current applicability of Title 19, Chapter 15, Part 29, Section 13 (19.15.29.13) of the New Mexico Administrative Code (NMAC), detailing reclamation requirements. As such, WPX conducted additional remediation activities at the Site to address waste-containing soil in the top 4 feet of the well pad to be reclaimed. All previous remediation activities and soil sample analytical results for the subject release can be referenced in the original CR and other supporting documents uploaded to NMOCD and CentreStack portal.

1.2 Release Background

On July 28, 2016, a tank overflow resulted in the release of approximately 45 barrels (bbls) of crude oil and produced water inside the earthen berm tank battery containment. A vacuum truck was immediately dispatched to the Site and recovered 41 bbls of fluid contained within the unbreeched, earthen berm. The incident was reported to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) on July 29, 2016, and was subsequently assigned Incident Number nAB1622531873 (**Appendix A**).

1.3 Site Characterization

The Site was assessed for applicability of Table 1, *Closure Criteria for Soils Impacted by a Release*, from 19.15.29 NMAC. Results from the characterization desktop review are presented on page 3 of Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on **Figure 1.**

Depth to groundwater at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on a recent measurement of a nearby well at the JC Williams Yard, located approximately 0.5 miles west of the Site. The well does not appear to have an identification number corresponding to the New Mexico Office of the State Engineer (NMOSE) well records; however, Ensolum obtained property access and measured depth to groundwater on August 15, 2022. Depth to groundwater was measured at 82.9 feet bgs. The location of the JC Williams groundwater well is provided on **Figure 1**. The Groundwater Measurement Form summarizing findings is provided as **Appendix B**.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 451 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from any occupied residence, school, hospital, institution, church, and wetland and greater than 1,000 feet to a freshwater well or spring. The Site is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area).

Based on the desktop review of nearby receptors and depth to groundwater determination at the Site, 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: 10,000 mg/kg

Per 19.15.29.13 NMAC, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the area to be reclaimed.

2.0 REMEDIATION ACTIONS

2.1 Delineation Activities

On October 4, 2022, four delineation potholes (PH01 through PH04) were advanced via mechanical equipment within the the subject area release to assess the presence or absence of waste-containing soil. Ensolum directed delineation activites by field sceening soil for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. A minimum of two soil samples were collected from each delineation pothole location: the samples with the highest observed field screening (0.5 feet bgs) and the greatest depth (4 feet bgs) were jarred for laboratory analysis. The location of the delineation samples are shown in **Figure 2**. Field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs **(Appendix C).** Photographic documentation during delineation activities is included in **Appendix D.**

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

2.2 Laboratory Analytical Results

Laboratory analytical results from delineation soil samples collected from pothole samples PH02 and PH03 at approximately 0.5 feet bgs indicated concentrations of TPH exceeded the reclamation requirement. Laboratory analytical results for all other delineation soil samples indicated all COC concentrations were in compliance with the applicable Closure Criteria, the reclamation requirement, and assisted with defining the vertical and lateral extents of waste-containing soil at the Site. Based on analytical results of soil samples PH02 and PH03 at 0.5 feet bgs, additional remedial actions were warranted.

2.3 Excavation Activities

During the months of October and November 2022, Ensolum was onsite to oversee excavation activities performed utilizing heavy equipment. Excavation activities were directed by referencing laboratory analytical results for PH02 and PH03 and field screening for VOCs and chloride as previously described. As a result, two seperate excavations were advanced to address waste-containing soil identified during delineation actvities. A photographic log of excavation activities is included as **Appendix D**.

Following the removal of waste-containing soil, Ensolum collected 5-point composite excavation confirmation soil samples every 200 square feet from the floor and sidewalls of the excavations. 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 sample FS01 was collected from the eastern excavation floor at 1-foot bgs. Due to the shallow depth of the eastern excavation, soil sample aliquots from the excavation sidewalls were incorporated into the floor sample. Confirmation soil samples FS02 through FS08 were collected from the western excavation floor at depths ranging from 1-foot to 3 feet bgs. Confirmation soil samples SW01 through SW03 were collected from the excavation sidewalls at depths ranging from the ground surface to 3 feet bgs. The confirmation excavation soil samples were handled and analyzed for COCs following the same procedures described above. The excavation extents and excavation confirmation soil sample locations are depicted on **Figure 3**.

2.4 Laboratory Analytical Results

Laboratory analytical results for all excavation soil samples indicated all COC concentrations were below the applicable Site Closure Criteria.

Analytical results for all sidewall samples SW01 through SW03 indicated TPH concentrations exceeded the reclamation requirement. As a result, the excavation was extended in the respective areas. Following the removal of the residual waste-containing soil, Ensolum collected three 5-point composite excavation soil samples (SW03 through SW06) from the new excavation sidewalls (**Figure 3**). The confirmation soil samples were collected, handled, and analyzed following the same procedures as previously described. Laboratory analytical results indicated all COC concentrations were in compliance with the reclamation requirement.

Laboratory analytical results are summarized on **Table 1.** The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**. **Appendix F** provides correspondence email notification receipts associated with the subject release.

2.5 Waste Handling

A total of approximately 220 cubic yards of waste-containing soil were excavated and removed from the Site. All waste containing soil was transported to an R360 landfill facility located in Orla, Texas under WPX-approved manifests. The excavations were backfilled with locally sourced topsoil to match pre-existing Site conditions.

3.0 CLOSURE REQUEST

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

- Laboratory analytical results for delineation soil samples from potholes PH01 and PH04 were in compliance with the Site Closure Criteria, thus provide additional confirmation for the lateral delineation of soil impacts;
- Identified TPH concentrations exceeding the reclamation requirement in delineation potholes PH02 and PH03 at 0.5 feet bgs were subsequently excavated via mechanical equipment. A total of approximately 220 cubic yards of waste-containing soil were excavated from the Site during excavation activities and disposed in accordance with state and federal regulations;
- Laboratory analytical results for all final excavation confirmation soil samples indicated all COC concentrations were below the applicable Site Closure Criteria as well as the reclamation requirement;
- The excavations have been backfilled with locally sourced topsoil to match pre-existing Site conditions.

Based on the conclusions presented, WPX believes the remediation activities described above have met the requirements set forth in 19.15.29 NMAC and have been protective of human health, the environment, and groundwater. As such, WPX respectfully requests closure of Incident Number nAB1622531873.

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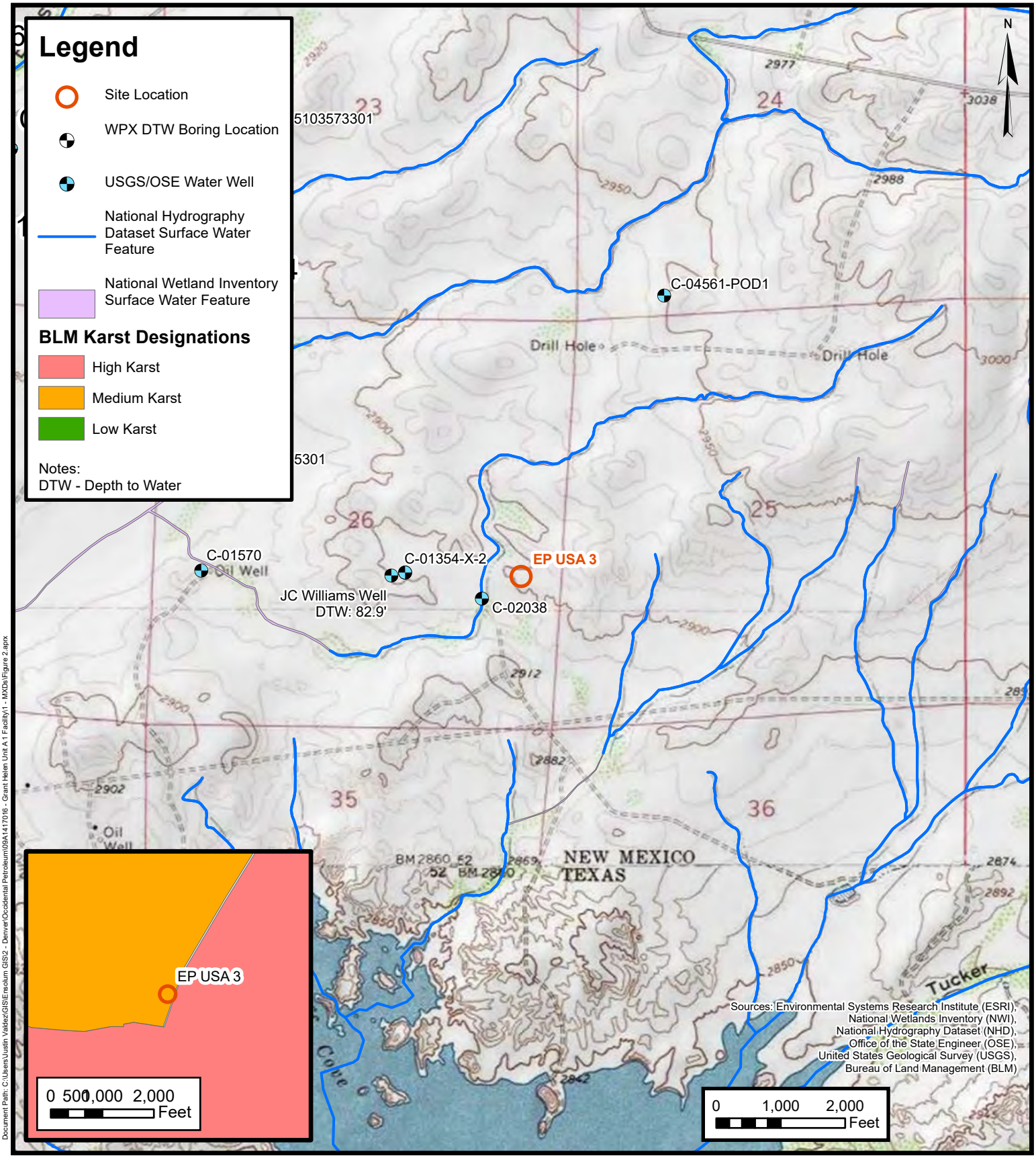
FIGURES



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\2 - Denver\Occidental Petroleum\09A1417016 - Grant Helen Unit A 1 Facility\1 - MXDs\Figure 2.aprx

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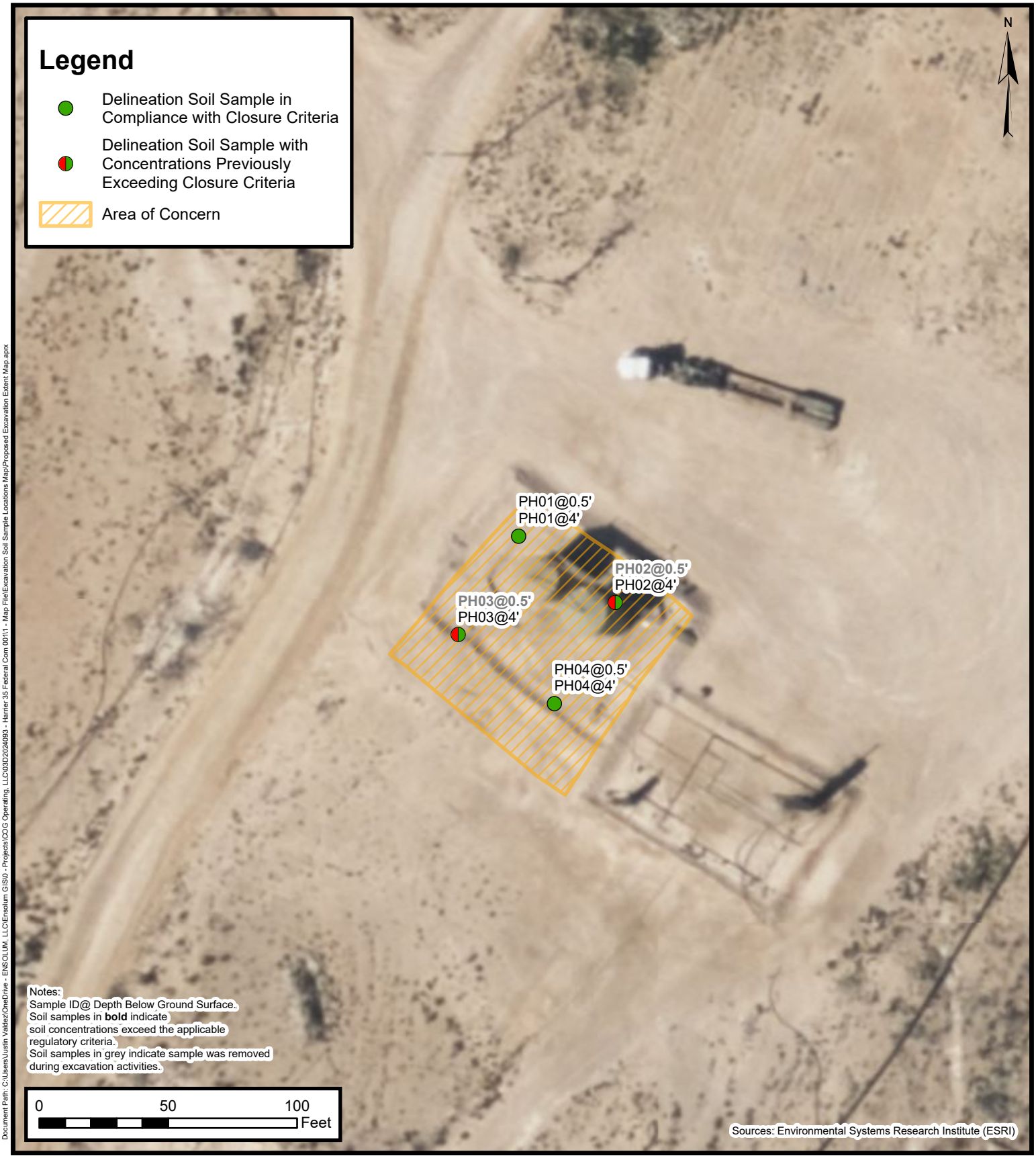
Site Map

EP USA 3
WPX Energy Permian, LLC
Unit I, Section 26, Township 26S, Range 29E
Eddy County, New Mexico

FIGURE
1



Document Path: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\COG Operating, LLC\03D\2024093 - Harrier 35 Federal Com 001H - Map File\Excavation Soil Sample Locations Map\Proposed Excavation Extent Map.aprx

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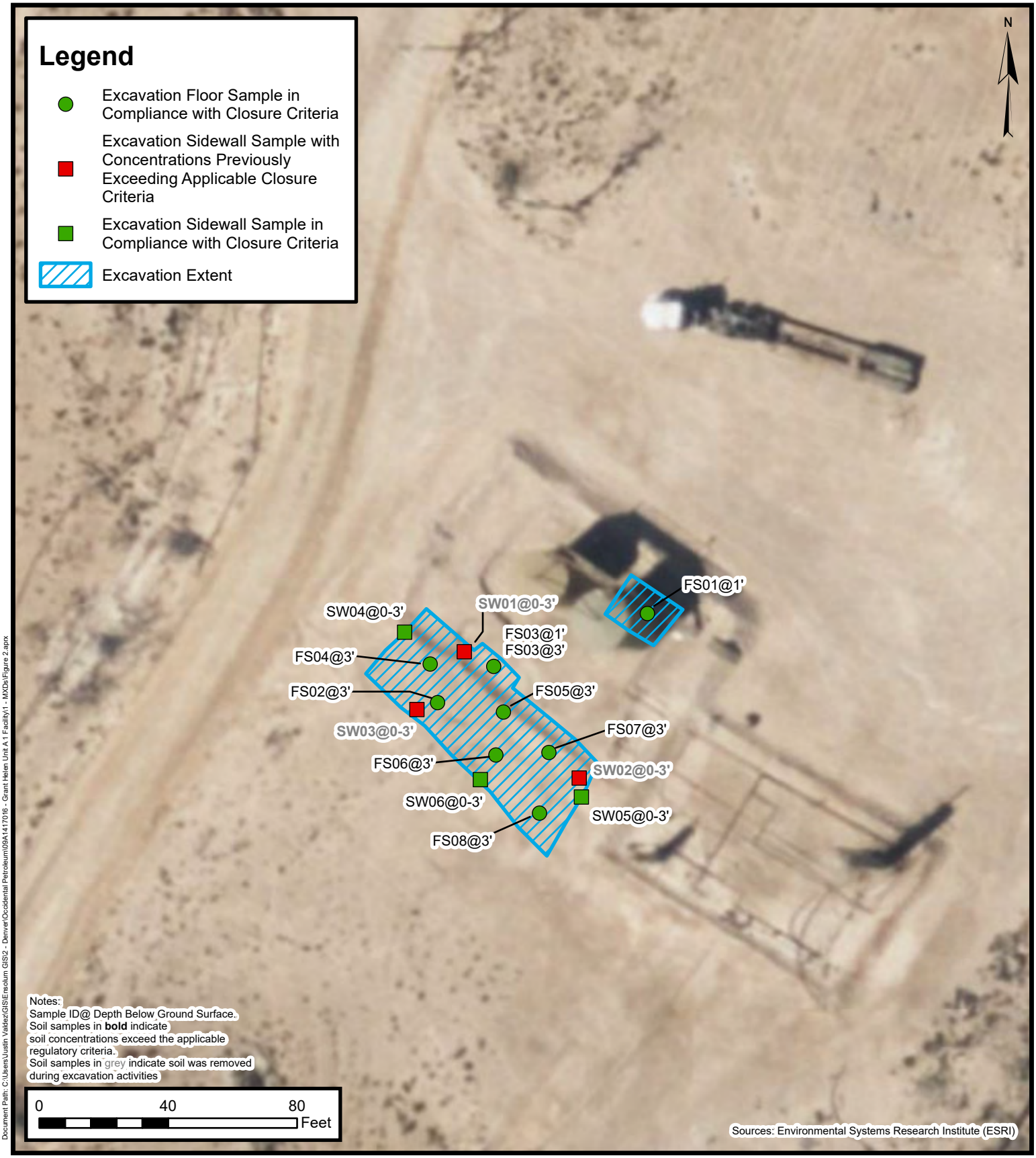
Delineation Soil Sample Locations

EP USA 3
WPX Energy Permian, LLC
Unit I, Section 26, Township 26S, Range 29E
Eddy County, New Mexico

FIGURE
2



Document Path: C:\Users\Justin Valdez\GIS\Ensolum GIS\2 - Denver\Occidental Petroleum\09A1417016 - Grant Helen Unit A 1 Facility\1 - MXDs\Figure 2.aprx

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Excavation Soil Sample Locations

EP USA 3
WPX Energy Permian, LLC
Unit I, Section 26, Township 26S, Range 29E
Eddy County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
EP USA 3
Eddy County, New Mexico
Ensolum Project No. 03A1987053

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Delineation Soil Sample Analytical Results										
PH01	10/04/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	79.3
PH01	10/04/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	53.4
PH02	10/04/2022	0.5	<0.00200	<0.00399	<49.9	**138**	**358**	**138**	**496**	95.6
PH02	10/04/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	55.5
PH03	10/04/2022	0.5	<0.00200	<0.00401	<49.9	**202**	**569**	**202**	**771**	304
PH03	10/04/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	430
PH04	10/04/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	102
PH04	10/04/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	466
Excavation Soil Sample Analytical Results										
FS01	10/26/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	113
FS02	10/26/2022	3	<0.00201	<0.00402	<49.8	<49.8	60.3	60.3	60.3	286
FS03	10/26/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	237
FS04	11/01/2022	3	<0.00201	<0.00402	<50.0	90.8	<50.0	90.8	90.8	216
FS05	11/01/2022	3	<0.00199	<0.00398	<50.0	78.0	<50.0	78.0	78.0	241
FS06	11/01/2022	3	<0.00200	<0.00399	59.2	<50.0	<50.0	59.2	59.2	176
FS07	11/01/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	171
FS08	11/01/2022	3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	169

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
EP USA 3
Eddy County, New Mexico
Ensolum Project No. 03A1987053

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**
SW01	10/31/2022	0-3	<0.00200	<0.00399	<50.0	**180**	69.4	**249.4**	**249.4**	209
SW02	10/31/2022	0-3	<0.00199	<0.00398	<49.8	**194**	<49.8	**194**	**194**	145
SW03	11/01/2022	0-3	<0.00199	<0.00398	<50.0	**188**	<50.0	**188**	**188**	157
SW04	12/06/2022	0-3	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	171
SW05	12/06/2022	0-3	<0.00200	<0.00401	<49.0	<49.0	<49.0	<49.0	<49.0	253
SW06	12/06/2022	0-3	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	190

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

*Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release*

Grey text represents samples that have been excavated

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APPENDIX A

Groundwater Measurement Form

Client: Devon Energy

Project Name: JC Williams Well GW measurement

Project Location: 32.0105289,-103.9534960

Project Manager: Joseph Hernandez

GROUNDWATER MEASUREMENT FORM

SAMPLING INFORMATION

Soil Boring / Monitor Well Number: NA

Project #: 03A1987013

Date Completed: 08/15/2022

Type of Water Quality Meter: NA

Total Depth of Monitor Well: NA

Date Calibrated: NA

Screen Interval: NA

Other Notes: used decontaminated water level indicator meter to measure groundwater depth in existing well

Sample Tubing Intake Depth: NA

Geologist: Gilbert Moreno

Monitor Well Detail	Tubing Placement	GW Depth (static)	After Purge

Time (minutes)	Purge Rate (L/min)	Temp. (ºC)	pH (unitless)	DO (mg/L)	ORP (mV)	Cond. (mS/cm)	GW Depth (feet)
NR	NR	NR	NR	NR	NR	NR	82.9

Comments:

NA = Not Available
NR = Not Recorded

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APPENDIX B

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

NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 11 2016
RECEIVED

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

nAB1622531873 246289

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company WPX Energy Inc/RKI	Contact Karolina Blaney
Address 5315 Buena Vista Dr.	Telephone No. 970 589 0743
Facility Name: EP USA 3	Facility Type: Well Pad/ Tank Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-24249

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	26	26S	29E	1980	FSL	460	FEL	Eddy

Latitude: 32.030564 N **Longitude:** -103.8912511 W

NATURE OF RELEASE *19 oil / 26 Wtr. *18 oil / 23 Wtr.

Type of Release. Produced Water and Oil	Volume of Release: 15 Bbls	Volume Recovered: 5 Bbls
Source of Release Tank Battery	Date and Hour of Occurrence 7/28/2016	Date and Hour of Discovery 7/28/2016 – 2230 hrs MT
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? NMOCD Heather Patterson & Michael Bratcher, BLM Shelly Tucker	
By Whom? Karolina Blaney	Date and Hour: 7/29/16– 11:30 hrs MT via Email	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*

Cause of this spill is human error. The well on location was supposed to be temporarily shut in for a pipeline maintenance but it wasn't causing the tank to overfill. Approximately *45 bbls of produced water and oil was spilled inside dirt SPCC containment.* 41 bbls of the spilled fluids were recovered: 18 bbls of oil and 23 bbls of water.

Describe Area Affected and Cleanup Action Taken.*

The majority of the impacted soil was removed and hauled off to a disposal facility. The dirt containment will be sampled for BTEX and TPH in accordance with NM OCD Guidelines for Remediation of Leaks, Spills, and Releases. The impacted area will also be sampled for chlorides as required by BLM. Further remediation will be based on these results. The total ranking score for this site is 10 and the site will be remediated to levels specified in 10-19 column of the Guidelines document. This spill did not impact any undisturbed land/pastures.

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: Karolina Blaney

Printed Name: Karolina Blaney

Title: Environmental Specialist

E-mail Address: Karolina.blaney@wpxenergy.com

Date: 8/11//2016 Phone: 970-589-0743

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 8/12/16 Expiration Date: N/A

Conditions of Approval:
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 9/12/16

Attached ☐

2RP-3824

* Attach Additional Sheets If Necessary

State of New Mexico
Oil Conservation Division

Incident ID	nAB1622531873
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? Volume exceeded 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice was given to NMOCD on 07/29/2016 by Karolina Blaney via email.	

Initial Response

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

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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: EHS Professional

Signature: Jim Raley Date: 05/10/2023

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

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	nAB1622531873
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?	82.9 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	nAB1622531873
District RP	
Facility ID	
Application ID	

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

Printed Name: Jim Raley Title: EHS Professional

Signature: Jim Raley Date: 05/10/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 05/11/2023

State of New Mexico
Oil Conservation Division

Incident ID	nAB1622531873
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: EHS Professional

Signature: Jim Raley Date: 05/10/2023

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

OCD Only

Received by: Jocelyn Harimon Date: 05/11/2023

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: Ashley Maxwell Date: 5/17/2023

Printed Name: Ashley Maxwell Title: Environmental Specialist

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

Sample Name: PH01	Date: 10/4/2022
Site Name: EP USA 3	
Incident Number: NAB1622531873	
Job Number: 03A1987053	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: GM / Method: Backhoe
Coordinates: 32.010404, -103.947932	Hole Diameter: N/A / Total Depth: 4'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	(0-1') CALICHE, dry, tan, fine-coarse, trace gravel, no stain, no odor.
D	<168	0	N	PH01	0.5			(1-2') SAND, dry, brown, well graded with silt, fine, trace caliche gravel, no stain, no odor.
D	<168	0	N		1	1	SW-SM	(2-4') CALICHE, dry, tan, coarse, well consolidated, no stain, no odor.
D	<168	0	N		2	2	CCHE	
D	<168	0	N		3	3		
D	<168	0	N	PH01	4	4		

Total Depth: 4 feet

ENSOLUM

Sample Name: PH02	Date: 10/4/2022
Site Name: EP USA 3	
Incident Number: NAB1622531873	
Job Number: 03A1987053	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: GM / Method: Backhoe
Coordinates: 32.010404, -103.947932	Hole Diameter: N/A / Total Depth: 4'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	(0-2') SAND, dry, brown, well graded with silt, fine-coarse, trace caliche gravel, no stain, no odor.
D	<168	0	N	PH02	0.5			@2' less gravel.
D	<168	0	N		1	1		(2-4') CALICHE, dry, tan, coarse, well-consolidated, no stain, no odor.
D	<168	0	N		2	2	CCHE	
D	<168	0	N		3	3		
D	<168	0	N	PH02	4	4		

Total Depth: 4 feet

ENSOLUM

	Sample Name: PH03	Date: 10/4/2022
	Site Name: EP USA 3	
	Incident Number: NAB1622531873	
	Job Number: 03A1987053	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: GM	Method: Backhoe
Coordinates: 32.010404, -103.947932	Hole Diameter: N/A	Total Depth: 4'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP-SM	(0-3') SAND, dry, brown, poorly graded with silt, fine, trace caliche gravel, no stain, no odor.
Dry	176	0	N	PH03	0.5			@1' abundant black and tan sandblast grains.
Dry	<168	0	N		1	1		@2' no sandblast grains.
Dry	376	1	N	PH03	2	2		(3-4') CALICHE, dry, tan, coarse, well-consolidated, no stain, no odor.
Dry	264	0	N		3	3	CCHE	
Dry	176	0	N	PH03	4	4		

Total Depth: 4 feet

ENSOLUM

Sample Name: PH04	Date: 10/4/2022
Site Name: EP USA 3	
Incident Number: NAB1622531873	
Job Number: 03A1987053	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM	Method: Backhoe
Coordinates: 32.010404, -103.947932	Hole Diameter: N/A / Total Depth: 4'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SW-SM	(0-2'), SAND, dry, brown, well-graded with silt, fine-coarse, trace gravel, no stain, no odor.
D	<168	0	N	PH04	0.5			
								(2-4'), CALICHE, dry, tan, well-consolidated, coarse, no stain, no odor.
D	<168	0	N		1	1		
D	<168	0	N		2	2	CCHE	
D	200	0	N		3	3		
D	264	0	N	PH04	4	4		

Total Depth: 4 feet

ENSOLUM

APPENDIX D

Photographic Log

ENSOLUM

Photographic Log
WPX Energy Permian, LLC
EP USA 3
nAB1622531873

Photograph 1 Date: 10/04/2022
Description: Pothole Sampling (PH01)
View: Facing South

Photograph 2 Date: 10/04/2022
Description: Pothole Sampling (PH02)
View: Facing West

Photograph 3 Date: 10/04/2022
Description: Pothole Sampling (PH03)
View: Facing West

Photograph 4 Date: 10/04/2022
Description: Pothole Sampling (PH04)
View: Facing South

ENSOLUM

Photographic Log
WPX Energy Permian, LLC
EP USA 3
nAB1622531873

Photograph 5 Date: 10/26/2022
Description: Excavation
View: Facing Southwest

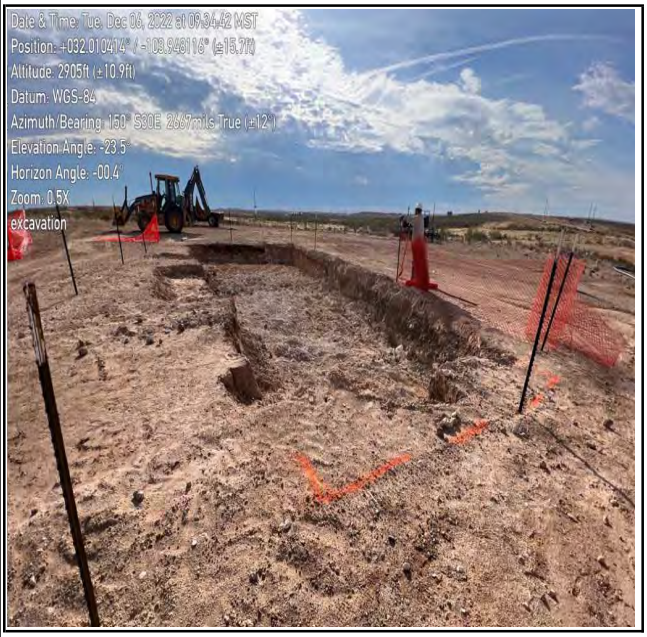
Photograph 6 Date: 10/31/2022
Description: Excavation
View: Facing South

Photograph 7 Date: 10/31/2022
Description: Excavation
View: Facing North

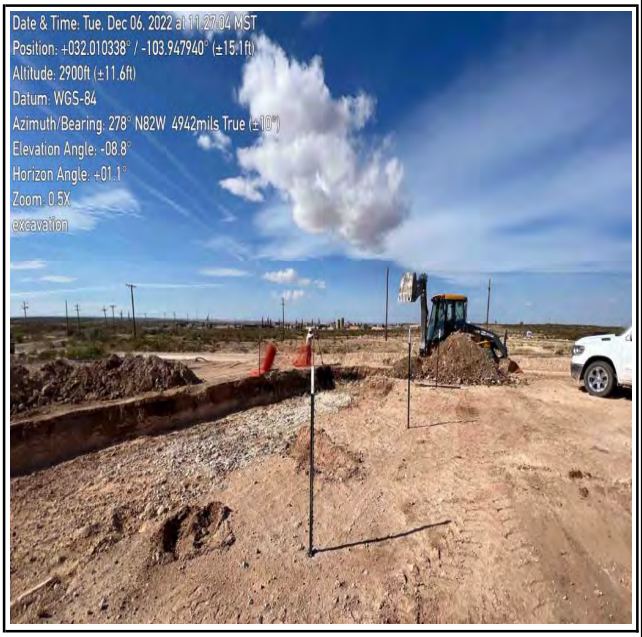
Photograph 8 Date: 10/31/2022
Description: Excavation
View: Facing Northwest

ENSOLUM

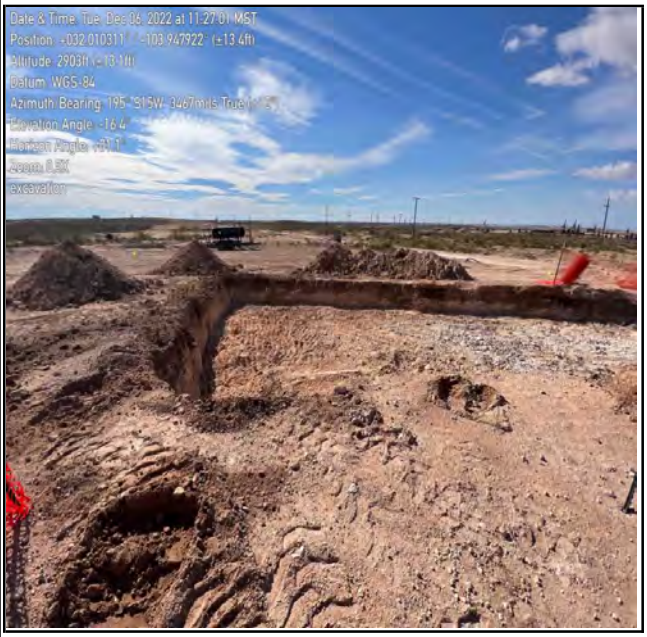
Photographic Log
WPX Energy Permian, LLC
EP USA 3
nAB1622531873



Photograph 9 Date: 12/06/2022
Description: Additional Excavation
View: Facing Southwest



Photograph 10 Date: 12/06/2022
Description: Additional Excavation
View: Facing West



Photograph 11 Date: 12/06/2022
Description: Additional Excavation
View: Facing Southwest

Photograph 12 Date: 12/06/2022
Description: Additional Excavation
View: Facing West

ENSOLUM

APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3138-1
Laboratory Sample Delivery Group: 03A1987053
Client Project/Site: EP USA 3

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

Attn: Devon Team

JKramer

Authorized for release by:
10/13/2022 11:07:52 AM

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

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

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3138-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Job ID: 890-3138-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3138-1

Receipt
The sample was received on 10/4/2022 3:18 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: PH03 (890-3138-1).

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 surrogate recovery for the blank associated with preparation batch 880-36292 and analytical batch 880-36222 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH03 (890-3138-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Client Sample ID: PH03

Date Collected: 10/04/22 10:50
Date Received: 10/04/22 15:18
Sample Depth: 2'

Lab Sample ID: 890-3138-1

Matrix: Solid

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		10/11/22 16:29	10/12/22 17:46	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/11/22 16:29	10/12/22 17:46	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/11/22 16:29	10/12/22 17:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/11/22 16:29	10/12/22 17:46	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/11/22 16:29	10/12/22 17:46	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/11/22 16:29	10/12/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/11/22 16:29*	*10/12/22 17:46*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/11/22 16:29*	*10/12/22 17:46*	*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			10/13/22 11:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**71.9**		49.9		mg/Kg			10/07/22 10:14	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		10/06/22 15:51	10/07/22 04:52	1
Diesel Range Organics (Over C10-C28)	**71.9**		49.9		mg/Kg		10/06/22 15:51	10/07/22 04:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/06/22 15:51	10/07/22 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/06/22 15:51*	*10/07/22 04:52*	*1*
o-Terphenyl	*69*	*S1-*	*70 - 130*	*10/06/22 15:51*	*10/07/22 04:52*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**461**		4.99		mg/Kg			10/08/22 09:17	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20232-A-1-A MS	Matrix Spike	99	107
880-20232-A-1-B MSD	Matrix Spike Duplicate	77	109
890-3138-1	PH03	98	108
LCS 880-36699/1-A	Lab Control Sample	100	97
LCSD 880-36699/2-A	Lab Control Sample Dup	103	104
MB 880-36699/5-A	Method Blank	90	112

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)
890-3138-1	PH03	79	69 S1-
890-3143-A-1-C MS	Matrix Spike	84	70
890-3143-A-1-D MSD	Matrix Spike Duplicate	87	72
LCS 880-36292/2-A	Lab Control Sample	95	92
LCSD 880-36292/3-A	Lab Control Sample Dup	94	90
MB 880-36292/1-A	Method Blank	11 S1-	13 S1-

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36699/5-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 16:29	10/12/22 11:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 16:29	10/12/22 11:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/11/22 16:29*	*10/12/22 11:29*	*1*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*	*10/11/22 16:29*	*10/12/22 11:29*	*1*

Lab Sample ID: LCS 880-36699/1-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08151		mg/Kg		82	70 - 130
Toluene	0.100	0.08917		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.07884		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1575		mg/Kg		79	70 - 130
o-Xylene	0.100	0.07833		mg/Kg		78	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-36699/2-A
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09035		mg/Kg		90	70 - 130	10	35
Toluene	0.100	0.09725		mg/Kg		97	70 - 130	9	35
Ethylbenzene	0.100	0.08683		mg/Kg		87	70 - 130	10	35
m-Xylene & p-Xylene	0.200	0.1722		mg/Kg		86	70 - 130	9	35
o-Xylene	0.100	0.08568		mg/Kg		86	70 - 130	9	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-20232-A-1-A MS
Matrix: Solid
Analysis Batch: 36717

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36699

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.09214		mg/Kg		92	70 - 130
Toluene	<0.00201	U F1	0.100	0.09307		mg/Kg		93	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

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

Lab Sample ID: 880-20232-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36717 — **Prep Batch: 36699**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.100	0.07772		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.201	0.1563		mg/Kg		78	70 - 130
o-Xylene	<0.00201	U F1 F2	0.100	0.07596		mg/Kg		75	70 - 130

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

Lab Sample ID: 880-20232-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36717 — **Prep Batch: 36699**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.07929		mg/Kg		79	70 - 130	15	35
Toluene	<0.00201	U F1	0.0998	0.06564	F1	mg/Kg		66	70 - 130	35	35
Ethylbenzene	<0.00201	U F1 F2	0.0998	0.05281	F1 F2	mg/Kg		53	70 - 130	38	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.09464	F1 F2	mg/Kg		47	70 - 130	49	35
o-Xylene	<0.00201	U F1 F2	0.0998	0.04674	F1 F2	mg/Kg		46	70 - 130	48	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

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

Lab Sample ID: MB 880-36292/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36222 — **Prep Batch: 36292**

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		10/06/22 15:51	10/06/22 19:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 19:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 15:51	10/06/22 19:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*11*	*S1-*	*70 - 130*	*10/06/22 15:51*	*10/06/22 19:28*	*1*
o-Terphenyl	*13*	*S1-*	*70 - 130*	*10/06/22 15:51*	*10/06/22 19:28*	*1*

Lab Sample ID: LCS 880-36292/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36222 — **Prep Batch: 36292**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	954.5		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)	1000	872.9		mg/Kg		87	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-36292/2-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36292

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-36292/3-A
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36292

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	937.8		mg/Kg		94	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	848.7		mg/Kg		85	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-3143-A-1-C MS
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1052		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	799.9		mg/Kg		80	70 - 130		

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

Lab Sample ID: 890-3143-A-1-D MSD
Matrix: Solid
Analysis Batch: 36222

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1090		mg/Kg		107	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	830.8		mg/Kg		83	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	72		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36234/1-A
Matrix: Solid
Analysis Batch: 36484

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			10/08/22 08:23	1

Lab Sample ID: LCS 880-36234/2-A
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	274.4		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-36234/3-A
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	266.3		mg/Kg		107	90 - 110	3	20

Lab Sample ID: 880-19976-A-1-C MS
Matrix: Solid
Analysis Batch: 36484

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	460		249	706.4		mg/Kg		99	90 - 110		

Lab Sample ID: 880-19976-A-1-D MSD
Matrix: Solid
Analysis Batch: 36484

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	460		249	707.4		mg/Kg		99	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

GC VOA

Prep Batch: 36699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	5035	
MB 880-36699/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36699/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36699/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20232-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-20232-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 36717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	8021B	36699
MB 880-36699/5-A	Method Blank	Total/NA	Solid	8021B	36699
LCS 880-36699/1-A	Lab Control Sample	Total/NA	Solid	8021B	36699
LCSD 880-36699/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36699
880-20232-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	36699
880-20232-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36699

Analysis Batch: 36873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	8015B NM	36292
MB 880-36292/1-A	Method Blank	Total/NA	Solid	8015B NM	36292
LCS 880-36292/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36292
LCSD 880-36292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36292
890-3143-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36292
890-3143-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36292

Prep Batch: 36292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	8015NM Prep	
MB 880-36292/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36292/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36292/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3143-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3143-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Soluble	Solid	DI Leach	
MB 880-36234/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36234/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36234/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

HPLC/IC (Continued)

Leach Batch: 36234 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-19976-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-19976-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 36484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3138-1	PH03	Soluble	Solid	300.0	36234
MB 880-36234/1-A	Method Blank	Soluble	Solid	300.0	36234
LCS 880-36234/2-A	Lab Control Sample	Soluble	Solid	300.0	36234
LCSD 880-36234/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36234
880-19976-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	36234
880-19976-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36234

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Client Sample ID: PH03

Date Collected: 10/04/22 10:50
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3138-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	36699	10/11/22 16:29	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36717	10/12/22 17:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36873	10/13/22 11:47	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36365	10/07/22 10:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36292	10/06/22 15:51	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36222	10/07/22 04:52	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36234	10/06/22 09:45	CH	EET MID
Soluble	Analysis	300.0		1			36484	10/08/22 09:17	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3138-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3138-1	PH03	Solid	10/04/22 10:50	10/04/22 15:18	2'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987053	Due Date:	5 Day TAT
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	WM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.6	
Total Containers:		Corrected Temperature:	4.4	

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH03	S	10.4.22	10:50	2'	Grab/	1		X	X	X

Parameters

890-3138 Chain of Custody

Sample Comments

Incident Numbers
NAB1622531873

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10-4-22 1518	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3138-1
SDG Number: 03A1987053

Login Number: 3138
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3138-1
SDG Number: 03A1987053

Login Number: 3138
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/05/22 12:21 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3139-1
Laboratory Sample Delivery Group: 03A1987053
Client Project/Site: EP USA 3
Revision: 1

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

Attn: Devon Team

Authorized for release by:
10/17/2022 1:08:46 PM

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

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

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3139-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Job ID: 890-3139-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3139-1

REVISION

The report being provided is a revision of the original report sent on 10/12/2022. The report (revision 1) is being revised due to Per client email, requesting chloride data review..

Report revision history

Receipt
The samples were received on 10/4/2022 3:18 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3139-1), PH01 (890-3139-2), PH02 (890-3139-3), PH02 (890-3139-4), PH03 (890-3139-5), PH03 (890-3139-6), PH04 (890-3139-7) and PH04 (890-3139-8).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36589 and analytical batch 880-36716 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-36849/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-20328-A-1-B MS) and (880-20328-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-36234 and analytical batch 880-36484 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH01
Date Collected: 10/04/22 10:00
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-1
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		10/10/22 13:30	10/12/22 11:53	1
Toluene	<0.00200	U F1	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:53	1
Ethylbenzene	<0.00200	U F1	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:53	1
m-Xylene & p-Xylene	<0.00401	U F1	0.00401		mg/Kg		10/10/22 13:30	10/12/22 11:53	1
o-Xylene	<0.00200	U F1	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:53	1
Xylenes, Total	<0.00401	U F1	0.00401		mg/Kg		10/10/22 13:30	10/12/22 11:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:53*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:53*	*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			10/12/22 14:00	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			10/07/22 09:09	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		10/06/22 08:40	10/06/22 13:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 13:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:09*	*1*
o-Terphenyl	*94*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:09*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.3**		4.99		mg/Kg			10/13/22 18:05	1

Client Sample ID: PH01
Date Collected: 10/04/22 10:10
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-2
Matrix: Solid

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		10/10/22 13:30	10/12/22 12:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:30	10/12/22 12:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:30	10/12/22 12:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/10/22 13:30	10/12/22 12:13	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/10/22 13:30	10/12/22 12:13	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/10/22 13:30	10/12/22 12:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:13*	*1*

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH01
Date Collected: 10/04/22 10:10
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:13*	*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			10/12/22 14:00	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			10/07/22 09:09	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		10/06/22 08:40	10/06/22 13:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 13:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:29*	*1*
o-Terphenyl	*114*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:29*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**53.4**		4.95		mg/Kg			10/13/22 18:19	1

Client Sample ID: PH02
Date Collected: 10/04/22 10:20
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-3
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		10/10/22 13:30	10/12/22 12:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 12:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 12:34	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/10/22 13:30	10/12/22 12:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 12:34	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/10/22 13:30	10/12/22 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:34*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:34*	*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			10/12/22 14:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**496**		49.9		mg/Kg			10/07/22 09:09	1

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH02
Date Collected: 10/04/22 10:20
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-3
Matrix: Solid

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		10/06/22 08:40	10/06/22 12:08	1
Diesel Range Organics (Over C10-C28)	138		49.9		mg/Kg		10/06/22 08:40	10/06/22 12:08	1
Oil Range Organics (Over C28-C36)	358		49.9		mg/Kg		10/06/22 08:40	10/06/22 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:08*	*1*
o-Terphenyl	*88*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:08*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95.6		5.00		mg/Kg			10/13/22 18:24	1

Client Sample ID: PH02
Date Collected: 10/04/22 10:30
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-4
Matrix: Solid

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		10/10/22 13:30	10/12/22 12:54	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 12:54	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 12:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 12:54	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 12:54	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 12:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:54*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*10/10/22 13:30*	*10/12/22 12:54*	*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			10/12/22 14:00	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			10/07/22 09:09	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		10/06/22 08:40	10/06/22 13:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 13:50	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:50*	*1*
o-Terphenyl	*85*		*70 - 130*	*10/06/22 08:40*	*10/06/22 13:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH02
Date Collected: 10/04/22 10:30
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	55.5		4.99		mg/Kg			10/13/22 18:29	1

Client Sample ID: PH03
Date Collected: 10/04/22 10:40
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-5
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		10/10/22 13:30	10/12/22 13:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:15	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/10/22 13:30	10/12/22 13:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:15	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/10/22 13:30	10/12/22 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:15*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:15*	*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			10/12/22 14:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	771		49.9		mg/Kg			10/07/22 09:09	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		10/06/22 08:40	10/06/22 12:28	1
Diesel Range Organics (Over C10-C28)	202		49.9		mg/Kg		10/06/22 08:40	10/06/22 12:28	1
Oil Range Organics (Over C28-C36)	569		49.9		mg/Kg		10/06/22 08:40	10/06/22 12:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:28*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:28*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	304		5.04		mg/Kg			10/13/22 18:34	1

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH03

Date Collected: 10/04/22 11:00
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-6
Matrix: Solid

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		10/10/22 13:30	10/12/22 13:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 13:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 13:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 13:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 13:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:36*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:36*	*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			10/12/22 14:00	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			10/07/22 09:09	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		10/06/22 08:40	10/06/22 14:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 14:10	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 14:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*10/06/22 08:40*	*10/06/22 14:10*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/06/22 08:40*	*10/06/22 14:10*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**430**		4.97		mg/Kg			10/13/22 18:48	1

Client Sample ID: PH04

Date Collected: 10/04/22 11:10
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-7
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		10/10/22 13:30	10/12/22 13:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:56	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/10/22 13:30	10/12/22 13:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 13:56	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/10/22 13:30	10/12/22 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:56*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH04
Date Collected: 10/04/22 11:10
Date Received: 10/04/22 15:18
Sample Depth: 0.5'

Lab Sample ID: 890-3139-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*10/10/22 13:30*	*10/12/22 13:56*	*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			10/12/22 14:00	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			10/07/22 09:09	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		10/06/22 08:40	10/06/22 12:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 12:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:48*	*1*
o-Terphenyl	*90*		*70 - 130*	*10/06/22 08:40*	*10/06/22 12:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**102**		5.00		mg/Kg			10/13/22 18:53	1

Client Sample ID: PH04
Date Collected: 10/04/22 11:20
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-8
Matrix: Solid

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		10/10/22 13:30	10/12/22 14:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 14:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 14:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 14:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/10/22 13:30	10/12/22 14:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/10/22 13:30	10/12/22 14:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/10/22 13:30*	*10/12/22 14:17*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/10/22 13:30*	*10/12/22 14:17*	*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			10/12/22 14:00	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			10/07/22 09:09	1

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH04

Date Collected: 10/04/22 11:20
Date Received: 10/04/22 15:18
Sample Depth: 4'

Lab Sample ID: 890-3139-8

Matrix: Solid

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		10/06/22 08:40	10/06/22 14:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 14:30	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/06/22 08:40	10/06/22 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*10/06/22 08:40*	*10/06/22 14:30*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/06/22 08:40*	*10/06/22 14:30*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**466**		5.01		mg/Kg			10/13/22 18:58	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3139-1	PH01	95	93
890-3139-1 MS	PH01	99	104
890-3139-1 MSD	PH01	100	101
890-3139-2	PH01	105	92
890-3139-3	PH02	111	88
890-3139-4	PH02	87	86
890-3139-5	PH03	106	84
890-3139-6	PH03	104	78
890-3139-7	PH04	96	92
890-3139-8	PH04	101	95
LCS 880-36589/1-A	Lab Control Sample	115	100
LCSD 880-36589/2-A	Lab Control Sample Dup	90	106
MB 880-36589/5-A	Method Blank	90	94

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-20033-A-1-C MS	Matrix Spike	94	85
880-20033-A-1-D MSD	Matrix Spike Duplicate	82	71
880-20328-A-1-B MS	Matrix Spike	197 S1+	189 S1+
880-20328-A-1-C MSD	Matrix Spike Duplicate	192 S1+	186 S1+
890-3139-1	PH01	99	94
890-3139-2	PH01	111	114
890-3139-3	PH02	95	88
890-3139-4	PH02	88	85
890-3139-5	PH03	95	93
890-3139-6	PH03	98	93
890-3139-7	PH04	97	90
890-3139-8	PH04	101	99
LCS 880-36226/2-A	Lab Control Sample	108	110
LCS 880-36849/2-A	Lab Control Sample	69 S1-	86
LCSD 880-36226/3-A	Lab Control Sample Dup	116	120
LCSD 880-36849/3-A	Lab Control Sample Dup	82	97
MB 880-36226/1-A	Method Blank	90	93
MB 880-36849/1-A	Method Blank	121	130

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36589/5-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 13:30	10/12/22 11:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 13:30	10/12/22 11:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/10/22 13:30*	*10/12/22 11:31*	*1*

Lab Sample ID: LCS 880-36589/1-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09914		mg/Kg		99	70 - 130
Toluene	0.100	0.09874		mg/Kg		99	70 - 130
Ethylbenzene	0.100	0.1009		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	0.200	0.2205		mg/Kg		110	70 - 130
o-Xylene	0.100	0.1260		mg/Kg		126	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-36589/2-A
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1019		mg/Kg		102	70 - 130	3	35
Toluene	0.100	0.09047		mg/Kg		90	70 - 130	9	35
Ethylbenzene	0.100	0.08621		mg/Kg		86	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1774		mg/Kg		89	70 - 130	22	35
o-Xylene	0.100	0.09931		mg/Kg		99	70 - 130	24	35

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

Lab Sample ID: 890-3139-1 MS
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.0996	0.08875		mg/Kg		89	70 - 130
Toluene	<0.00200	U F1	0.0996	0.06903	F1	mg/Kg		69	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

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

Lab Sample ID: 890-3139-1 MS
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.0996	0.06233	F1	mg/Kg		63	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.199	0.1260	F1	mg/Kg		63	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.07216		mg/Kg		72	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3139-1 MSD
Matrix: Solid
Analysis Batch: 36716

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 36589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08393		mg/Kg		84	70 - 130	6	35
Toluene	<0.00200	U F1	0.0998	0.06550	F1	mg/Kg		66	70 - 130	5	35
Ethylbenzene	<0.00200	U F1	0.0998	0.05425	F1	mg/Kg		54	70 - 130	14	35
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.1110	F1	mg/Kg		56	70 - 130	13	35
o-Xylene	<0.00200	U F1	0.0998	0.06353	F1	mg/Kg		64	70 - 130	13	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-36226/1-A
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36226

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		10/06/22 08:40	10/06/22 09:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 09:43	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/06/22 08:40	10/06/22 09:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/06/22 08:40*	*10/06/22 09:43*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/06/22 08:40*	*10/06/22 09:43*	*1*

Lab Sample ID: LCS 880-36226/2-A
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36226

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1077		mg/Kg		108	70 - 130
Diesel Range Organics (Over C10-C28)	1000	910.0		mg/Kg		91	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-36226/2-A
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36226

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: LCSD 880-36226/3-A
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36226

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1190		mg/Kg		119	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1038		mg/Kg		104	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	116		70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 880-20033-A-1-C MS
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36226

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	955.9		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	101		998	922.3		mg/Kg		82	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-20033-A-1-D MSD
Matrix: Solid
Analysis Batch: 36216

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36226

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	892.0		mg/Kg		86	70 - 130	7	20
Diesel Range Organics (Over C10-C28)	101		999	803.4		mg/Kg		70	70 - 130	14	20

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

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-36849/1-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36849

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		10/13/22 10:24	10/14/22 19:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/14/22 19:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/13/22 10:24	10/14/22 19:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/13/22 10:24*	*10/14/22 19:36*	*1*
o-Terphenyl	*130*		*70 - 130*	*10/13/22 10:24*	*10/14/22 19:36*	*1*

Lab Sample ID: LCS 880-36849/2-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1101		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1057		mg/Kg		106	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*69*	*S1-*	*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: LCSD 880-36849/3-A
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36849

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	991.9		mg/Kg		99	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	1151		mg/Kg		115	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 880-20328-A-1-B MS
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36849

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	998	871.4		mg/Kg		86	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1191		mg/Kg		119	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

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

Lab Sample ID: 880-20328-A-1-B MS
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36849

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	197	S1+	70 - 130
o-Terphenyl	189	S1+	70 - 130

Lab Sample ID: 880-20328-A-1-C MSD
Matrix: Solid
Analysis Batch: 36918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36849

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	<49.8	U	998	830.5		mg/Kg		82	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1172		mg/Kg		117	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	192	S1+	70 - 130
o-Terphenyl	186	S1+	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36234/1-A
Matrix: Solid
Analysis Batch: 36484

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			10/08/22 08:23	1

Lab Sample ID: LCS 880-36234/2-A
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	274.4		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-36234/3-A
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	266.3		mg/Kg		107	90 - 110	3	20

Lab Sample ID: 890-3139-8 MS
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: PH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	116	F1	250	518.0	F1	mg/Kg		161	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3139-8 MSD
Matrix: Solid
Analysis Batch: 36484

Client Sample ID: PH04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	116	F1	250	507.5	F1	mg/Kg		157	90 - 110	2	20

Lab Sample ID: MB 880-36893/1-A
Matrix: Solid
Analysis Batch: 36896

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			10/13/22 17:50	1

Lab Sample ID: LCS 880-36893/2-A
Matrix: Solid
Analysis Batch: 36896

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.3		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-36893/3-A
Matrix: Solid
Analysis Batch: 36896

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	261.4		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-3139-1 MS
Matrix: Solid
Analysis Batch: 36896

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	79.3		250	321.9		mg/Kg		97	90 - 110

Lab Sample ID: 890-3139-1 MSD
Matrix: Solid
Analysis Batch: 36896

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	79.3		250	322.5		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

GC VOA

Prep Batch: 36589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	5035	
890-3139-2	PH01	Total/NA	Solid	5035	
890-3139-3	PH02	Total/NA	Solid	5035	
890-3139-4	PH02	Total/NA	Solid	5035	
890-3139-5	PH03	Total/NA	Solid	5035	
890-3139-6	PH03	Total/NA	Solid	5035	
890-3139-7	PH04	Total/NA	Solid	5035	
890-3139-8	PH04	Total/NA	Solid	5035	
MB 880-36589/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36589/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36589/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3139-1 MS	PH01	Total/NA	Solid	5035	
890-3139-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 36716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	8021B	36589
890-3139-2	PH01	Total/NA	Solid	8021B	36589
890-3139-3	PH02	Total/NA	Solid	8021B	36589
890-3139-4	PH02	Total/NA	Solid	8021B	36589
890-3139-5	PH03	Total/NA	Solid	8021B	36589
890-3139-6	PH03	Total/NA	Solid	8021B	36589
890-3139-7	PH04	Total/NA	Solid	8021B	36589
890-3139-8	PH04	Total/NA	Solid	8021B	36589
MB 880-36589/5-A	Method Blank	Total/NA	Solid	8021B	36589
LCS 880-36589/1-A	Lab Control Sample	Total/NA	Solid	8021B	36589
LCSD 880-36589/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36589
890-3139-1 MS	PH01	Total/NA	Solid	8021B	36589
890-3139-1 MSD	PH01	Total/NA	Solid	8021B	36589

Analysis Batch: 36761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	Total BTEX	
890-3139-2	PH01	Total/NA	Solid	Total BTEX	
890-3139-3	PH02	Total/NA	Solid	Total BTEX	
890-3139-4	PH02	Total/NA	Solid	Total BTEX	
890-3139-5	PH03	Total/NA	Solid	Total BTEX	
890-3139-6	PH03	Total/NA	Solid	Total BTEX	
890-3139-7	PH04	Total/NA	Solid	Total BTEX	
890-3139-8	PH04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	8015B NM	36226
890-3139-2	PH01	Total/NA	Solid	8015B NM	36226
890-3139-3	PH02	Total/NA	Solid	8015B NM	36226
890-3139-4	PH02	Total/NA	Solid	8015B NM	36226
890-3139-5	PH03	Total/NA	Solid	8015B NM	36226
890-3139-6	PH03	Total/NA	Solid	8015B NM	36226

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

GC Semi VOA (Continued)

Analysis Batch: 36216 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-7	PH04	Total/NA	Solid	8015B NM	36226
890-3139-8	PH04	Total/NA	Solid	8015B NM	36226
MB 880-36226/1-A	Method Blank	Total/NA	Solid	8015B NM	36226
LCS 880-36226/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36226
LCSD 880-36226/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36226
880-20033-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	36226
880-20033-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36226

Prep Batch: 36226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	8015NM Prep	
890-3139-2	PH01	Total/NA	Solid	8015NM Prep	
890-3139-3	PH02	Total/NA	Solid	8015NM Prep	
890-3139-4	PH02	Total/NA	Solid	8015NM Prep	
890-3139-5	PH03	Total/NA	Solid	8015NM Prep	
890-3139-6	PH03	Total/NA	Solid	8015NM Prep	
890-3139-7	PH04	Total/NA	Solid	8015NM Prep	
890-3139-8	PH04	Total/NA	Solid	8015NM Prep	
MB 880-36226/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36226/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36226/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20033-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20033-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Total/NA	Solid	8015 NM	
890-3139-2	PH01	Total/NA	Solid	8015 NM	
890-3139-3	PH02	Total/NA	Solid	8015 NM	
890-3139-4	PH02	Total/NA	Solid	8015 NM	
890-3139-5	PH03	Total/NA	Solid	8015 NM	
890-3139-6	PH03	Total/NA	Solid	8015 NM	
890-3139-7	PH04	Total/NA	Solid	8015 NM	
890-3139-8	PH04	Total/NA	Solid	8015 NM	

Prep Batch: 36849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36849/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36849/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36849/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20328-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20328-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36849/1-A	Method Blank	Total/NA	Solid	8015B NM	36849
LCS 880-36849/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36849
LCSD 880-36849/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36849
880-20328-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	36849
880-20328-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	36849

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 36234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36234/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36234/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36234/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3139-8 MS	PH04	Soluble	Solid	DI Leach	
890-3139-8 MSD	PH04	Soluble	Solid	DI Leach	

Analysis Batch: 36484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36234/1-A	Method Blank	Soluble	Solid	300.0	36234
LCS 880-36234/2-A	Lab Control Sample	Soluble	Solid	300.0	36234
LCSD 880-36234/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36234
890-3139-8 MS	PH04	Soluble	Solid	300.0	36234
890-3139-8 MSD	PH04	Soluble	Solid	300.0	36234

Leach Batch: 36893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Soluble	Solid	DI Leach	
890-3139-2	PH01	Soluble	Solid	DI Leach	
890-3139-3	PH02	Soluble	Solid	DI Leach	
890-3139-4	PH02	Soluble	Solid	DI Leach	
890-3139-5	PH03	Soluble	Solid	DI Leach	
890-3139-6	PH03	Soluble	Solid	DI Leach	
890-3139-7	PH04	Soluble	Solid	DI Leach	
890-3139-8	PH04	Soluble	Solid	DI Leach	
MB 880-36893/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36893/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36893/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3139-1 MS	PH01	Soluble	Solid	DI Leach	
890-3139-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 36896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3139-1	PH01	Soluble	Solid	300.0	36893
890-3139-2	PH01	Soluble	Solid	300.0	36893
890-3139-3	PH02	Soluble	Solid	300.0	36893
890-3139-4	PH02	Soluble	Solid	300.0	36893
890-3139-5	PH03	Soluble	Solid	300.0	36893
890-3139-6	PH03	Soluble	Solid	300.0	36893
890-3139-7	PH04	Soluble	Solid	300.0	36893
890-3139-8	PH04	Soluble	Solid	300.0	36893
MB 880-36893/1-A	Method Blank	Soluble	Solid	300.0	36893
LCS 880-36893/2-A	Lab Control Sample	Soluble	Solid	300.0	36893
LCSD 880-36893/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36893
890-3139-1 MS	PH01	Soluble	Solid	300.0	36893
890-3139-1 MSD	PH01	Soluble	Solid	300.0	36893

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH01
Date Collected: 10/04/22 10:00
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-1
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	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 11:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 13:09	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:05	CH	EET MID

Client Sample ID: PH01
Date Collected: 10/04/22 10:10
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-2
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	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 12:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 13:29	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:19	CH	EET MID

Client Sample ID: PH02
Date Collected: 10/04/22 10:20
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-3
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	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 12:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 12:08	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:24	CH	EET MID

Client Sample ID: PH02
Date Collected: 10/04/22 10:30
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-4
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	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 12:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH02
Date Collected: 10/04/22 10:30
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-4
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			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 13:50	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:29	CH	EET MID

Client Sample ID: PH03
Date Collected: 10/04/22 10:40
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-5
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			4.99 g	5 mL	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 13:15	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 12:28	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:34	CH	EET MID

Client Sample ID: PH03
Date Collected: 10/04/22 11:00
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 13:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 14:10	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:48	CH	EET MID

Client Sample ID: PH04
Date Collected: 10/04/22 11:10
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 13:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 12:48	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Client Sample ID: PH04
Date Collected: 10/04/22 11:10
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:53	CH	EET MID

Client Sample ID: PH04
Date Collected: 10/04/22 11:20
Date Received: 10/04/22 15:18

Lab Sample ID: 890-3139-8
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	36589	10/10/22 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36716	10/12/22 14:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			36761	10/12/22 14:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			36331	10/07/22 09:09	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36226	10/06/22 08:40	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36216	10/06/22 14:30	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	36893	10/13/22 15:19	CH	EET MID
Soluble	Analysis	300.0		1			36896	10/13/22 18:58	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3139-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3139-1	PH01	Solid	10/04/22 10:00	10/04/22 15:18	0.5'
890-3139-2	PH01	Solid	10/04/22 10:10	10/04/22 15:18	4'
890-3139-3	PH02	Solid	10/04/22 10:20	10/04/22 15:18	0.5'
890-3139-4	PH02	Solid	10/04/22 10:30	10/04/22 15:18	4'
890-3139-5	PH03	Solid	10/04/22 10:40	10/04/22 15:18	0.5'
890-3139-6	PH03	Solid	10/04/22 11:00	10/04/22 15:18	4'
890-3139-7	PH04	Solid	10/04/22 11:10	10/04/22 15:18	0.5'
890-3139-8	PH04	Solid	10/04/22 11:20	10/04/22 15:18	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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.6	
Total Containers:		Corrected Temperature:	4.4	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	10.4.22	10:00	0.5'	Grab/	1		X	X	X
PH01	S	10.4.22	10:10	4'	Grab/	1		X	X	X
PH02	S	10.4.22	10:20	0.5'	Grab/	1		X	X	X
PH02	S	10.4.22	10:30	4'	Grab/	1		X	X	X
PH03	S	10.4.22	10:40	0.5'	Grab/	1		X	X	X
PH03	S	10.4.22	11:00	4'	Grab/	1		X	X	X
PH04	S	10.4.22	11:10	0.5'	Grab/	1		X	X	X
PH04	S	10.4.22	11:20	4'	Grab/	1		X	X	X

890-3139 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 Numbers
NAB1622531873

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		10.4.22 1518	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3139-1
SDG Number: 03A1987053

Login Number: 3139
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3139-1
SDG Number: 03A1987053

Login Number: 3139
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/05/22 12:21 PM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3299-1
Laboratory Sample Delivery Group: Eddy County NM
Client Project/Site: EP USA 3
Revision: 1

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

Attn: Devon Team

JKramer

Authorized for release by:
11/4/2022 2:36:45 PM

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

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

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3299-1
SDG: Eddy County NM

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Job ID: 890-3299-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3299-1

REVISION

The report being provided is a revision of the original report sent on 11/2/2022. The report (revision 1) is being revised due to Per client email, requesting TPH re run.

Report revision history

Receipt
The samples were received on 10/27/2022 11:29 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 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3299-1), FS02 (890-3299-2) and FS03 (890-3299-3).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38292 and analytical batch 880-38317 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (880-20849-A-1-E MS) and (880-20849-A-1-F MSD). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38114 and analytical batch 880-38169 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-38114 and analytical batch 880-38169 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Client Sample ID: FS01

Date Collected: 10/26/22 13:00
Date Received: 10/27/22 11:29
Sample Depth: 1'

Lab Sample ID: 890-3299-1
Matrix: Solid

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		10/31/22 13:44	11/01/22 15:11	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 15:11	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 15:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/31/22 13:44	11/01/22 15:11	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 15:11	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/31/22 13:44	11/01/22 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*10/31/22 13:44*	*11/01/22 15:11*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*10/31/22 13:44*	*11/01/22 15:11*	*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			11/02/22 10:02	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			10/31/22 12:28	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		11/03/22 08:35	11/04/22 02:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 02:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*11/03/22 08:35*	*11/04/22 02:41*	*1*
o-Terphenyl	*84*		*70 - 130*	*11/03/22 08:35*	*11/04/22 02:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**113**		5.00		mg/Kg			10/30/22 01:20	1

Client Sample ID: FS02

Date Collected: 10/26/22 13:30
Date Received: 10/27/22 11:29
Sample Depth: 3'

Lab Sample ID: 890-3299-2
Matrix: Solid

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		10/31/22 13:44	11/01/22 17:01	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/31/22 13:44	11/01/22 17:01	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/31/22 13:44	11/01/22 17:01	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/31/22 13:44	11/01/22 17:01	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/31/22 13:44	11/01/22 17:01	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/31/22 13:44	11/01/22 17:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*10/31/22 13:44*	*11/01/22 17:01*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Client Sample ID: FS02
Date Collected: 10/26/22 13:30
Date Received: 10/27/22 11:29
Sample Depth: 3'

Lab Sample ID: 890-3299-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/31/22 13:44*	*11/01/22 17:01*	*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			11/02/22 10:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**60.3**		49.8		mg/Kg			10/31/22 12:28	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	<49.8	U *-	49.8		mg/Kg		10/28/22 15:48	10/31/22 01:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U *-	49.8		mg/Kg		10/28/22 15:48	10/31/22 01:50	1
Oil Range Organics (Over C28-C36)	**60.3**		49.8		mg/Kg		10/28/22 15:48	10/31/22 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane				*10/28/22 15:48*	*10/31/22 01:50*	*1*
o-Terphenyl				*10/28/22 15:48*	*10/31/22 01:50*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**286**		4.97		mg/Kg			10/30/22 01:29	1

Client Sample ID: FS03
Date Collected: 10/26/22 14:00
Date Received: 10/27/22 11:29
Sample Depth: 1'

Lab Sample ID: 890-3299-3
Matrix: Solid

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		10/31/22 13:44	11/01/22 17:21	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 17:21	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 17:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/31/22 13:44	11/01/22 17:21	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/31/22 13:44	11/01/22 17:21	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/31/22 13:44	11/01/22 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*10/31/22 13:44*	*11/01/22 17:21*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/31/22 13:44*	*11/01/22 17:21*	*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			11/02/22 10:02	1

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Client Sample ID: FS03
Date Collected: 10/26/22 14:00
Date Received: 10/27/22 11:29
Sample Depth: 1'

Lab Sample ID: 890-3299-3
Matrix: Solid

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			10/31/22 12:28	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		10/28/22 15:48	10/31/22 01:10	1
Diesel Range Organics (Over C10-C28)	<50.0	U *-	50.0		mg/Kg		10/28/22 15:48	10/31/22 01:10	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/28/22 15:48	10/31/22 01:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane				*10/28/22 15:48*	*10/31/22 01:10*	*1*
o-Terphenyl				*10/28/22 15:48*	*10/31/22 01:10*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**237**		4.99		mg/Kg			10/30/22 01:37	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20849-A-1-E MS	Matrix Spike	42 S1-	72
880-20849-A-1-F MSD	Matrix Spike Duplicate	95	95
890-3299-1	FS01	108	106
890-3299-2	FS02	102	96
890-3299-3	FS03	111	108
LCS 880-38292/1-A	Lab Control Sample	86	90
LCSD 880-38292/2-A	Lab Control Sample Dup	74	92
MB 880-38292/5-A	Method Blank	96	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)
890-3299-1	FS01	84	84
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

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		
890-3299-2	FS02		
890-3299-3	FS03		
MB 880-38114/1-A	Method Blank		

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38292/5-A
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/31/22 13:44	11/01/22 11:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/31/22 13:44	11/01/22 11:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/31/22 13:44	11/01/22 11:42	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/31/22 13:44	11/01/22 11:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/31/22 13:44	11/01/22 11:42	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/31/22 13:44	11/01/22 11:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*10/31/22 13:44*	*11/01/22 11:42*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*10/31/22 13:44*	*11/01/22 11:42*	*1*

Lab Sample ID: LCS 880-38292/1-A
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08466		mg/Kg		85	70 - 130
Toluene	0.100	0.09195		mg/Kg		92	70 - 130
Ethylbenzene	0.100	0.08924		mg/Kg		89	70 - 130
m-Xylene & p-Xylene	0.200	0.1621		mg/Kg		81	70 - 130
o-Xylene	0.100	0.09116		mg/Kg		91	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-38292/2-A
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38292

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08006		mg/Kg		80	70 - 130	6	35
Toluene	0.100	0.08417		mg/Kg		84	70 - 130	9	35
Ethylbenzene	0.100	0.08077		mg/Kg		81	70 - 130	10	35
m-Xylene & p-Xylene	0.200	0.1473		mg/Kg		74	70 - 130	10	35
o-Xylene	0.100	0.08231		mg/Kg		82	70 - 130	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*74*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: 880-20849-A-1-E MS
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.100	0.05449	F1	mg/Kg		53	70 - 130
Toluene	<0.00201	U F1 F2	0.100	0.007232	F1	mg/Kg		7	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

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

Lab Sample ID: 880-20849-A-1-E MS
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F1 F2	0.100	0.05799	F1	mg/Kg		58	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.201	0.02080	F1	mg/Kg		10	70 - 130
o-Xylene	<0.00201	U	0.100	0.08906		mg/Kg		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*42*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*

Lab Sample ID: 880-20849-A-1-F MSD
Matrix: Solid
Analysis Batch: 38317

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38292

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0990	0.08306	F2	mg/Kg		83	70 - 130	42	35
Toluene	<0.00201	U F1 F2	0.0990	0.08825	F2	mg/Kg		89	70 - 130	170	35
Ethylbenzene	<0.00201	U F1 F2	0.0990	0.08782	F2	mg/Kg		89	70 - 130	41	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.198	0.1682	F2	mg/Kg		85	70 - 130	156	35
o-Xylene	<0.00201	U	0.0990	0.09392		mg/Kg		95	70 - 130	5	35

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

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

Lab Sample ID: MB 880-38114/1-A
Matrix: Solid
Analysis Batch: 38169

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38114

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		10/28/22 15:48	10/30/22 21:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/28/22 15:48	10/30/22 21:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/28/22 15:48	10/30/22 21:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane				*10/28/22 15:48*	*10/30/22 21:02*	*1*
o-Terphenyl				*10/28/22 15:48*	*10/30/22 21:02*	*1*

Lab Sample ID: LCS 880-38114/2-A
Matrix: Solid
Analysis Batch: 38169

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38114

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	51000	990.8	*-	mg/Kg		2	70 - 130
Diesel Range Organics (Over C10-C28)	51000	966.7	*-	mg/Kg		2	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

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

Lab Sample ID: LCSD 880-38114/3-A
Matrix: Solid
Analysis Batch: 38169

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38114

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			51000	819.4	*-	mg/Kg		2	70 - 130	19	20
Diesel Range Organics (Over C10-C28)			51000	888.9	*-	mg/Kg		2	70 - 130	8	20

Lab Sample ID: 890-3298-A-1-G MS
Matrix: Solid
Analysis Batch: 38169

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- F1	50900	1020	F1	mg/Kg		2	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U *- F1 F2	50900	674.4	F1	mg/Kg		1	70 - 130		

Lab Sample ID: 890-3298-A-1-H MSD
Matrix: Solid
Analysis Batch: 38169

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38114

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	<49.8	U *- F1	50900	1028	F1	mg/Kg		2	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U *- F1 F2	50900	841.7	F1 F2	mg/Kg		2	70 - 130	22	20

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	89		70 - 130

Lab Sample ID: LCSD 880-38586/3-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	67	S1-	70 - 130
o-Terphenyl	61	S1-	70 - 130

Lab Sample ID: 890-3350-A-1-F MSD
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38586

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	74		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38012/1-A
Matrix: Solid
Analysis Batch: 38160

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			10/29/22 21:26	1

Lab Sample ID: LCS 880-38012/2-A
Matrix: Solid
Analysis Batch: 38160

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	247.7		mg/Kg		99	90 - 110		

Lab Sample ID: LCSD 880-38012/3-A
Matrix: Solid
Analysis Batch: 38160

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	246.6		mg/Kg		99	90 - 110	0	20

Lab Sample ID: 880-20845-A-28-B MS
Matrix: Solid
Analysis Batch: 38160

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	118		251	360.4		mg/Kg		97	90 - 110		

Lab Sample ID: 880-20845-A-28-C MSD
Matrix: Solid
Analysis Batch: 38160

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	118		251	354.0		mg/Kg		94	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

GC VOA

Prep Batch: 38292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	5035	
890-3299-2	FS02	Total/NA	Solid	5035	
890-3299-3	FS03	Total/NA	Solid	5035	
MB 880-38292/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38292/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38292/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20849-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-20849-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	8021B	38292
890-3299-2	FS02	Total/NA	Solid	8021B	38292
890-3299-3	FS03	Total/NA	Solid	8021B	38292
MB 880-38292/5-A	Method Blank	Total/NA	Solid	8021B	38292
LCS 880-38292/1-A	Lab Control Sample	Total/NA	Solid	8021B	38292
LCSD 880-38292/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38292
880-20849-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	38292
880-20849-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38292

Analysis Batch: 38459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	Total BTEX	
890-3299-2	FS02	Total/NA	Solid	Total BTEX	
890-3299-3	FS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 38114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-2	FS02	Total/NA	Solid	8015NM Prep	
890-3299-3	FS03	Total/NA	Solid	8015NM Prep	
MB 880-38114/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38114/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38114/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3298-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3298-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-2	FS02	Total/NA	Solid	8015B NM	38114
890-3299-3	FS03	Total/NA	Solid	8015B NM	38114
MB 880-38114/1-A	Method Blank	Total/NA	Solid	8015B NM	38114
LCS 880-38114/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38114
LCSD 880-38114/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38114
890-3298-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	38114
890-3298-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38114

Analysis Batch: 38268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Analysis Batch: 38268 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-2	FS02	Total/NA	Solid	8015 NM	
890-3299-3	FS03	Total/NA	Solid	8015 NM	

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 38012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Soluble	Solid	DI Leach	
890-3299-2	FS02	Soluble	Solid	DI Leach	
890-3299-3	FS03	Soluble	Solid	DI Leach	
MB 880-38012/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38012/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38012/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-20845-A-28-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-20845-A-28-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3299-1	FS01	Soluble	Solid	300.0	38012
890-3299-2	FS02	Soluble	Solid	300.0	38012
890-3299-3	FS03	Soluble	Solid	300.0	38012
MB 880-38012/1-A	Method Blank	Soluble	Solid	300.0	38012
LCS 880-38012/2-A	Lab Control Sample	Soluble	Solid	300.0	38012
LCSD 880-38012/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38012
880-20845-A-28-B MS	Matrix Spike	Soluble	Solid	300.0	38012
880-20845-A-28-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38012

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Client Sample ID: FS01
Date Collected: 10/26/22 13:00
Date Received: 10/27/22 11:29

Lab Sample ID: 890-3299-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	38292	10/31/22 13:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38317	11/01/22 15:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38459	11/02/22 10:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38268	10/31/22 12:28	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 02:41	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38012	10/28/22 10:53	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38160	10/30/22 01:20	CH	EET MID

Client Sample ID: FS02
Date Collected: 10/26/22 13:30
Date Received: 10/27/22 11:29

Lab Sample ID: 890-3299-2
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	38292	10/31/22 13:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38317	11/01/22 17:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38459	11/02/22 10:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38268	10/31/22 12:28	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	38114	10/28/22 15:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38169	10/31/22 01:50	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	38012	10/28/22 10:53	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38160	10/30/22 01:29	CH	EET MID

Client Sample ID: FS03
Date Collected: 10/26/22 14:00
Date Received: 10/27/22 11:29

Lab Sample ID: 890-3299-3
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			5.03 g	5 mL	38292	10/31/22 13:44	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38317	11/01/22 17:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38459	11/02/22 10:02	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38268	10/31/22 12:28	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38114	10/28/22 15:48	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38169	10/31/22 01:10	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38012	10/28/22 10:53	CH	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	38160	10/30/22 01:37	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3299-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3299-1	FS01	Solid	10/26/22 13:00	10/27/22 11:29	1'
890-3299-2	FS02	Solid	10/26/22 13:30	10/27/22 11:29	3'
890-3299-3	FS03	Solid	10/26/22 14:00	10/27/22 11:29	1'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987053	Due Date:	5 Day TAT
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Yocoly Edyte Konan		
CC #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.8	
Total Containers:		Corrected Temperature:	3.6	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
FS01	S	10.26.22	13:00	1'	Comp	1		X	X	X
FS02	S	10.26.22	13:30	3'	Comp	1		X	X	X
FS03	S	10.26.22	14:00	1'	Comp	1		X	X	X

Parameters

890-3299 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 Numbers
NAB1622531873

10.26.22

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		10/27/22 1139	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3299-1
SDG Number: Eddy County NM

Login Number: 3299
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3299-1
SDG Number: Eddy County NM

Login Number: 3299
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/28/22 10:29 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3345-1
Laboratory Sample Delivery Group: 03A1987053
Client Project/Site: EP USA 3

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

Attn: Devon Team

JKramer

Authorized for release by:
11/8/2022 1:33:41 PM

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3345-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Job ID: 890-3345-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3345-1

Receipt
The sample was received on 11/1/2022 12:43 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SW01 (890-3345-1).

GC VOA
Method 8021B: The LCS was biased low for benzene, however the LCSD was acceptable. Since the method requires only an LCS,the data was qualified and reported. (LCS 880-38531/1-A)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38531 and analytical batch 880-38810 were outside control limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-21034-A-1-E MSD). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: The method blank for preparation batch 880-38587 and analytical batch 880-38572 contained Gasoline Range Organics (GRO)-C6-C10, Diesel Range Organics (Over C10-C28) and OII Range Organics (Over C28-C36) above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38587 and analytical batch 880-38572 was outside control limits. Sample non-homogeneity is suspected.

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: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Client Sample ID: SW01

Date Collected: 10/31/22 11:40
Date Received: 11/01/22 12:43
Sample Depth: 0-3'

Lab Sample ID: 890-3345-1

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		11/02/22 15:55	11/08/22 09:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 09:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 09:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/02/22 15:55	11/08/22 09:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 09:18	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/02/22 15:55	11/08/22 09:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*11/02/22 15:55*	*11/08/22 09:18*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/02/22 15:55*	*11/08/22 09:18*	*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			11/08/22 13:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**249**		50.0		mg/Kg			11/04/22 11:23	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		11/03/22 08:39	11/04/22 03:25	1
Diesel Range Organics (Over C10-C28)	**180**		50.0		mg/Kg		11/03/22 08:39	11/04/22 03:25	1
Oil Range Organics (Over C28-C36)	**69.4**		50.0		mg/Kg		11/03/22 08:39	11/04/22 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/03/22 08:39*	*11/04/22 03:25*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/03/22 08:39*	*11/04/22 03:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**209**		4.95		mg/Kg			11/02/22 16:33	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21034-A-1-D MS	Matrix Spike	125	95
880-21034-A-1-E MSD	Matrix Spike Duplicate	135 S1+	92
890-3345-1	SW01	116	101
LCS 880-38531/1-A	Lab Control Sample	99	86
LCSD 880-38531/2-A	Lab Control Sample Dup	126	97
MB 880-38531/5-A	Method Blank	88	98
MB 880-38855/5-A	Method Blank	84	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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-21018-A-1-D MS	Matrix Spike	80	82
880-21018-A-1-E MSD	Matrix Spike Duplicate	80	78
890-3345-1	SW01	89	96
LCS 880-38587/2-A	Lab Control Sample	82	96
LCSD 880-38587/3-A	Lab Control Sample Dup	81	92
MB 880-38587/1-A	Method Blank	88	105

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38531/5-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/02/22 15:55	11/08/22 02:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*11/02/22 15:55*	*11/08/22 02:13*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/02/22 15:55*	*11/08/22 02:13*	*1*

Lab Sample ID: LCS 880-38531/1-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.06515	*-	mg/Kg		65	70 - 130
Toluene	0.100	0.08772		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.09084		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1595		mg/Kg		80	70 - 130
o-Xylene	0.100	0.07957		mg/Kg		80	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: LCSD 880-38531/2-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08307		mg/Kg		83	70 - 130	24	35
Toluene	0.100	0.1069		mg/Kg		107	70 - 130	20	35
Ethylbenzene	0.100	0.1095		mg/Kg		109	70 - 130	19	35
m-Xylene & p-Xylene	0.200	0.1965		mg/Kg		98	70 - 130	21	35
o-Xylene	0.100	0.09951		mg/Kg		100	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-21034-A-1-D MS
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *- F1	0.0998	0.08068		mg/Kg		81	70 - 130
Toluene	<0.00200	U	0.0998	0.09502		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

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

Lab Sample ID: 880-21034-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38531**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.09480		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1656		mg/Kg		83	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08467		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-21034-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38531**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *- F1	0.101	0.06518	F1	mg/Kg		65	70 - 130	21	35
Toluene	<0.00200	U	0.101	0.08003		mg/Kg		79	70 - 130	17	35
Ethylbenzene	<0.00200	U	0.101	0.08173		mg/Kg		81	70 - 130	15	35
m-Xylene & p-Xylene	<0.00401	U	0.202	0.1444		mg/Kg		72	70 - 130	14	35
o-Xylene	<0.00200	U	0.101	0.07673		mg/Kg		76	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-38855/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38855**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/22 11:02	11/07/22 14:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*11/07/22 11:02*	*11/07/22 14:38*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/07/22 11:02*	*11/07/22 14:38*	*1*

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

Lab Sample ID: MB 880-38587/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38572 — **Prep Batch: 38587**

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		11/03/22 08:39	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-38587/1-A
Matrix: Solid
Analysis Batch: 38572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38587

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:39	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:39	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*11/03/22 08:39*	*11/03/22 22:42*	*1*
o-Terphenyl	*105*		*70 - 130*	*11/03/22 08:39*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38587/2-A
Matrix: Solid
Analysis Batch: 38572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38587

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1017		mg/Kg		102	70 - 130
Diesel Range Organics (Over C10-C28)	1000	946.9		mg/Kg		95	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*82*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: LCSD 880-38587/3-A
Matrix: Solid
Analysis Batch: 38572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38587

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1113		mg/Kg		111	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	1149		mg/Kg		115	70 - 130	19	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: 880-21018-A-1-D MS
Matrix: Solid
Analysis Batch: 38572

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38587

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	997	1234		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	975.4		mg/Kg		98	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

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

Lab Sample ID: 880-21018-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38572 — **Prep Batch: 38587**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	867.6	F2	mg/Kg		85	70 - 130	35	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	954.1		mg/Kg		96	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38446/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/02/22 14:38	1

Lab Sample ID: LCS 880-38446/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	266.4		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-38446/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38534

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	262.4		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-3341-A-4-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<4.96	U	248	251.9		mg/Kg		101	90 - 110

Lab Sample ID: 890-3341-A-4-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<4.96	U	248	259.6		mg/Kg		104	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

GC VOA

Prep Batch: 38531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	5035	
MB 880-38531/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38531/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38531/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21034-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21034-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	8021B	38531
MB 880-38531/5-A	Method Blank	Total/NA	Solid	8021B	38531
MB 880-38855/5-A	Method Blank	Total/NA	Solid	8021B	38855
LCS 880-38531/1-A	Lab Control Sample	Total/NA	Solid	8021B	38531
LCSD 880-38531/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38531
880-21034-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	38531
880-21034-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38531

Prep Batch: 38855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38855/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	8015B NM	38587
MB 880-38587/1-A	Method Blank	Total/NA	Solid	8015B NM	38587
LCS 880-38587/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38587
LCSD 880-38587/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38587
880-21018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	38587
880-21018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38587

Prep Batch: 38587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	8015NM Prep	
MB 880-38587/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38587/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38587/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-21018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-21018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 38446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Soluble	Solid	DI Leach	
MB 880-38446/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38446/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38446/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3341-A-4-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3341-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3345-1	SW01	Soluble	Solid	300.0	38446
MB 880-38446/1-A	Method Blank	Soluble	Solid	300.0	38446
LCS 880-38446/2-A	Lab Control Sample	Soluble	Solid	300.0	38446
LCSD 880-38446/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38446
890-3341-A-4-C MS	Matrix Spike	Soluble	Solid	300.0	38446
890-3341-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38446

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Client Sample ID: SW01

Date Collected: 10/31/22 11:40
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3345-1

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	38531	11/02/22 15:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38810	11/08/22 09:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39007	11/08/22 13:40	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38733	11/04/22 11:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38587	11/03/22 08:39	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38572	11/04/22 03:25	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	38446	11/02/22 08:10	CH	EET MID
Soluble	Analysis	300.0		1			38534	11/02/22 16:33	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3345-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3345-1	SW01	Solid	10/31/22 11:40	11/01/22 12:43	0-3'

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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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SW01	S	10.31.22	11:40	0-3'	Comp	1		X	X	X	

ANALYSIS REQUEST

Incident Numbers: NAB1622531873

11.1.22

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			11/1/22 1243			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3345-1
SDG Number: 03A1987053

Login Number: 3345
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3345-1
SDG Number: 03A1987053

Login Number: 3345
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/02/22 11:49 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
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/16/2022 3:05:56 PM Revision 1

JOB DESCRIPTION

EP USA 3
SDG NUMBER 03A1987053

JOB NUMBER

890-3346-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM88220

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3346-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Job ID: 890-3346-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3346-1

REVISION

The report being provided is a revision of the original report sent on 11/8/2022. The report (revision 1) is being revised due to Per client email, requesting TPH re run.

Report revision history

Receipt
The sample was received on 11/1/2022 12:43 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SW02 (890-3346-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38465 and analytical batch 880-38581 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-20981-A-1-C MSD). 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 matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-39514 and analytical batch 880-39389 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Client Sample ID: SW02

Date Collected: 10/31/22 11:50
Date Received: 11/01/22 12:43
Sample Depth: 0-3'

Lab Sample ID: 890-3346-1

Matrix: Solid

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		11/02/22 15:00	11/03/22 16:08	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:08	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:08	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 16:08	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:08	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:08*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:08*	*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			11/03/22 16:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**194**		49.8		mg/Kg			11/04/22 11:23	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	<49.8	U	49.8		mg/Kg		11/14/22 14:24	11/15/22 02:56	1
Diesel Range Organics (Over C10-C28)	**194**		49.8		mg/Kg		11/14/22 14:24	11/15/22 02:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/14/22 14:24	11/15/22 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*11/14/22 14:24*	*11/15/22 02:56*	*1*
o-Terphenyl	*108*		*70 - 130*	*11/14/22 14:24*	*11/15/22 02:56*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**145**		25.0		mg/Kg			11/05/22 21:29	5

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-20981-A-1-B MS	Matrix Spike	91	93
880-20981-A-1-C MSD	Matrix Spike Duplicate	46 S1-	71
890-3346-1	SW02	105	110
LCS 880-38465/1-A	Lab Control Sample	95	99
LCSD 880-38465/2-A	Lab Control Sample Dup	98	94
MB 880-38465/5-A	Method Blank	98	91

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3346-1	SW02	109	108
890-3393-A-1-C MS	Matrix Spike	88	85
890-3393-A-1-D MSD	Matrix Spike Duplicate	95	90
890-3429-A-1-E MS	Matrix Spike	103	90
890-3429-A-1-F MSD	Matrix Spike Duplicate	115	102
LCS 880-39001/2-A	Lab Control Sample	109	119
LCS 880-39514/2-A	Lab Control Sample	90	92
LCSD 880-39001/3-A	Lab Control Sample Dup	100	108
LCSD 880-39514/3-A	Lab Control Sample Dup	91	91
MB 880-39001/1-A	Method Blank	99	114
MB 880-39514/1-A	Method Blank	98	107

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38465/5-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*11/02/22 15:00*	*11/03/22 10:56*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*11/02/22 15:00*	*11/03/22 10:56*	*1*

Lab Sample ID: LCS 880-38465/1-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07921		mg/Kg		79	70 - 130		
Toluene			0.100	0.08140		mg/Kg		81	70 - 130		
Ethylbenzene			0.100	0.08324		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene			0.200	0.1632		mg/Kg		82	70 - 130		
o-Xylene			0.100	0.09295		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-38465/2-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08528		mg/Kg		85	70 - 130	7	35
Toluene			0.100	0.08804		mg/Kg		88	70 - 130	8	35
Ethylbenzene			0.100	0.09032		mg/Kg		90	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1781		mg/Kg		89	70 - 130	9	35
o-Xylene			0.100	0.1002		mg/Kg		100	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-20981-A-1-B MS
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1 F2	0.0990	0.07448		mg/Kg		74	70 - 130		
Toluene	<0.00202	U F1	0.0990	0.07129		mg/Kg		72	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

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

Lab Sample ID: 880-20981-A-1-B MS
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F1 F2	0.0990	0.06359	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	0.00417	F1 F2	0.198	0.1265	F1	mg/Kg		62	70 - 130
o-Xylene	<0.00202	U F1 F2	0.0990	0.06683	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-20981-A-1-C MSD
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1 F2	0.0994	0.03522	F1 F2	mg/Kg		34	70 - 130	72	35
Toluene	<0.00202	U F1	0.0994	0.05260	F1	mg/Kg		53	70 - 130	30	35
Ethylbenzene	<0.00202	U F1 F2	0.0994	0.03748	F1 F2	mg/Kg		38	70 - 130	52	35
m-Xylene & p-Xylene	0.00417	F1 F2	0.199	0.06178	F1 F2	mg/Kg		29	70 - 130	69	35
o-Xylene	<0.00202	U F1 F2	0.0994	0.03257	F1 F2	mg/Kg		33	70 - 130	69	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*46*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*

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

Lab Sample ID: MB 880-39001/1-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39001

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		11/08/22 13:32	11/08/22 20:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 20:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 20:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*
o-Terphenyl	*114*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*

Lab Sample ID: LCS 880-39001/2-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39001

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	972.6		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-39001/2-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39001

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: LCSD 880-39001/3-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39001

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	826.3		mg/Kg		83	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	911.4		mg/Kg		91	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 890-3393-A-1-C MS
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39001

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	946.6		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	808.4		mg/Kg		81	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-3393-A-1-D MSD
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39001

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1139		mg/Kg		111	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	855.3		mg/Kg		86	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-39514/1-A
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 39514

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		11/14/22 14:24	11/14/22 20:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/14/22 14:24	11/14/22 20:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/14/22 14:24	11/14/22 20:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*11/14/22 14:24*	*11/14/22 20:26*	*1*
o-Terphenyl	*107*		*70 - 130*	*11/14/22 14:24*	*11/14/22 20:26*	*1*

Lab Sample ID: LCS 880-39514/2-A
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39514

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1060		mg/Kg		106	70 - 130
Diesel Range Organics (Over C10-C28)	1000	937.0		mg/Kg		94	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*90*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: LCSD 880-39514/3-A
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39514

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1076		mg/Kg		108	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	934.9		mg/Kg		93	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-3429-A-1-E MS
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39514

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	997	1209		mg/Kg		120	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1026		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

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

Lab Sample ID: 890-3429-A-1-E MS
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39514

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-3429-A-1-F MSD
Matrix: Solid
Analysis Batch: 39389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39514

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	999	1387	F1	mg/Kg		137	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1164		mg/Kg		117	70 - 130	13	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38521/1-A
Matrix: Solid
Analysis Batch: 38782

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			11/05/22 18:57	1

Lab Sample ID: LCS 880-38521/2-A
Matrix: Solid
Analysis Batch: 38782

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.8		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-38521/3-A
Matrix: Solid
Analysis Batch: 38782

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	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-21018-A-2-B MS
Matrix: Solid
Analysis Batch: 38782

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	97.7		249	343.7		mg/Kg		99	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-21018-A-2-C MSD
Matrix: Solid
Analysis Batch: 38782

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	97.7		249	340.4		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

GC VOA

Prep Batch: 38465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	5035	
MB 880-38465/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	8021B	38465
MB 880-38465/5-A	Method Blank	Total/NA	Solid	8021B	38465
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	8021B	38465
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38465
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	38465
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38465

Analysis Batch: 38672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	8015 NM	

Analysis Batch: 38944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015B NM	39001
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39001
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39001
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	39001
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39001

Prep Batch: 39001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 39389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	8015B NM	39514
MB 880-39514/1-A	Method Blank	Total/NA	Solid	8015B NM	39514
LCS 880-39514/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39514
LCSD 880-39514/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39514
890-3429-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	39514
890-3429-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39514

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

GC Semi VOA

Prep Batch: 39514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Total/NA	Solid	8015NM Prep	
MB 880-39514/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39514/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39514/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3429-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3429-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 38521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Soluble	Solid	DI Leach	
MB 880-38521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3346-1	SW02	Soluble	Solid	300.0	38521
MB 880-38521/1-A	Method Blank	Soluble	Solid	300.0	38521
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	300.0	38521
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38521
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	38521
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38521

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Client Sample ID: SW02
Date Collected: 10/31/22 11:50
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3346-1
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			5.03 g	5 mL	38465	11/02/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38581	11/03/22 16:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38672	11/03/22 16:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			38734	11/04/22 11:23	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	39514	11/14/22 14:24	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	39389	11/15/22 02:56	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38521	11/02/22 14:40	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	38782	11/05/22 21:29	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3346-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3346-1	SW02	Solid	10/31/22 11:50	11/01/22 12:43	0-3'

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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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.2	
Total Containers:		Corrected Temperature:	3.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW02	S	10.31.22	11:50	0-3'	Comp	1		X	X	X

Parameters

890-3346 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 Numbers
NAB1622531873

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Sutton	11/1/22 1243			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3346-1
SDG Number: 03A1987053

Login Number: 3346
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3346-1
SDG Number: 03A1987053

Login Number: 3346
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/02/22 11:49 AM

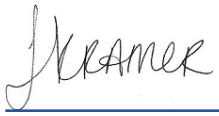
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 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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Revision 1

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3347-1
Laboratory Sample Delivery Group: 03A1987053
Client Project/Site: EP USA 3

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

Attn: Devon Team

JKramer

Authorized for release by:
11/8/2022 1:39:42 PM

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

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

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3347-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Job ID: 890-3347-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3347-1

Receipt
The sample was received on 11/1/2022 12:43 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SW03 (890-3347-1).

GC VOA
Method 8021B: The LCS was biased low for benzene, however the LCSD was acceptable. Since the method requires only an LCS,the data was qualified and reported. (LCS 880-38531/1-A)

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38531 and analytical batch 880-38810 were outside control limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: SW03 (890-3347-1) and (880-21034-A-1-E MSD). Evidence of matrix interferences is not obvious.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Client Sample ID: SW03

Date Collected: 11/01/22 08:30
Date Received: 11/01/22 12:43
Sample Depth: 0-3'

Lab Sample ID: 890-3347-1

Matrix: Solid

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		11/02/22 15:55	11/08/22 09:38	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:55	11/08/22 09:38	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:55	11/08/22 09:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/02/22 15:55	11/08/22 09:38	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:55	11/08/22 09:38	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/02/22 15:55	11/08/22 09:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*11/02/22 15:55*	*11/08/22 09:38*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*11/02/22 15:55*	*11/08/22 09:38*	*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			11/08/22 13:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**188**		50.0		mg/Kg			11/04/22 11:08	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		11/03/22 08:35	11/04/22 01:36	1
Diesel Range Organics (Over C10-C28)	**188**		50.0		mg/Kg		11/03/22 08:35	11/04/22 01:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 01:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*11/03/22 08:35*	*11/04/22 01:36*	*1*
o-Terphenyl	*83*		*70 - 130*	*11/03/22 08:35*	*11/04/22 01:36*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**157**		25.3		mg/Kg			11/07/22 17:22	5

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-21034-A-1-D MS	Matrix Spike	125	95
880-21034-A-1-E MSD	Matrix Spike Duplicate	135 S1+	92
890-3347-1	SW03	133 S1+	99
LCS 880-38531/1-A	Lab Control Sample	99	86
LCSD 880-38531/2-A	Lab Control Sample Dup	126	97
MB 880-38531/5-A	Method Blank	88	98
MB 880-38855/5-A	Method Blank	84	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)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3347-1	SW03	84	83
890-3350-A-1-E MS	Matrix Spike	67 S1-	61 S1-
890-3350-A-1-F MSD	Matrix Spike Duplicate	85	74
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38531/5-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:55	11/08/22 02:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/02/22 15:55	11/08/22 02:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*11/02/22 15:55*	*11/08/22 02:13*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/02/22 15:55*	*11/08/22 02:13*	*1*

Lab Sample ID: LCS 880-38531/1-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.06515	*-	mg/Kg		65	70 - 130
Toluene	0.100	0.08772		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.09084		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	0.200	0.1595		mg/Kg		80	70 - 130
o-Xylene	0.100	0.07957		mg/Kg		80	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: LCSD 880-38531/2-A
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08307		mg/Kg		83	70 - 130	24	35
Toluene	0.100	0.1069		mg/Kg		107	70 - 130	20	35
Ethylbenzene	0.100	0.1095		mg/Kg		109	70 - 130	19	35
m-Xylene & p-Xylene	0.200	0.1965		mg/Kg		98	70 - 130	21	35
o-Xylene	0.100	0.09951		mg/Kg		100	70 - 130	22	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-21034-A-1-D MS
Matrix: Solid
Analysis Batch: 38810

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38531

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *- F1	0.0998	0.08068		mg/Kg		81	70 - 130
Toluene	<0.00200	U	0.0998	0.09502		mg/Kg		95	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

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

Lab Sample ID: 880-21034-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38531**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0998	0.09480		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1656		mg/Kg		83	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08467		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 880-21034-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38531**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *- F1	0.101	0.06518	F1	mg/Kg		65	70 - 130	21	35
Toluene	<0.00200	U	0.101	0.08003		mg/Kg		79	70 - 130	17	35
Ethylbenzene	<0.00200	U	0.101	0.08173		mg/Kg		81	70 - 130	15	35
m-Xylene & p-Xylene	<0.00401	U	0.202	0.1444		mg/Kg		72	70 - 130	14	35
o-Xylene	<0.00200	U	0.101	0.07673		mg/Kg		76	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

Lab Sample ID: MB 880-38855/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38810 — **Prep Batch: 38855**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/07/22 11:02	11/07/22 14:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/07/22 11:02	11/07/22 14:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*11/07/22 11:02*	*11/07/22 14:38*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/07/22 11:02*	*11/07/22 14:38*	*1*

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

Lab Sample ID: MB 880-38586/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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		11/03/22 08:35	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*
o-Terphenyl	*80*		*70 - 130*	*11/03/22 08:35*	*11/03/22 22:42*	*1*

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	887.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1144		mg/Kg		114	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-A-1-E MS
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*67*	*S1-*	*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

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

Lab Sample ID: 890-3350-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38574 — **Prep Batch: 38586**

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*
o-Terphenyl	*74*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38521/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/05/22 18:57	1

Lab Sample ID: LCS 880-38521/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	260.8		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-38521/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-21018-A-2-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	97.7		249	343.7		mg/Kg		99	90 - 110

Lab Sample ID: 880-21018-A-2-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 38782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	97.7		249	340.4		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

GC VOA

Prep Batch: 38531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	5035	
MB 880-38531/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38531/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38531/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-21034-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-21034-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	8021B	38531
MB 880-38531/5-A	Method Blank	Total/NA	Solid	8021B	38531
MB 880-38855/5-A	Method Blank	Total/NA	Solid	8021B	38855
LCS 880-38531/1-A	Lab Control Sample	Total/NA	Solid	8021B	38531
LCSD 880-38531/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38531
880-21034-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	38531
880-21034-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38531

Prep Batch: 38855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38855/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 39008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	38586
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3350-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 38521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Soluble	Solid	DI Leach	
MB 880-38521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3347-1	SW03	Soluble	Solid	300.0	38521
MB 880-38521/1-A	Method Blank	Soluble	Solid	300.0	38521
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	300.0	38521
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38521
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	38521
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38521

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Client Sample ID: SW03

Date Collected: 11/01/22 08:30
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3347-1

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			5.03 g	5 mL	38531	11/02/22 15:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38810	11/08/22 09:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			39008	11/08/22 13:40	AJ	EET MID
Total/NA	Analysis	8015 NM		1			38723	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 01:36	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	38521	11/02/22 14:40	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	38782	11/07/22 17:22	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3347-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3347-1	SW03	Solid	11/01/22 08:30	11/01/22 12:43	0-3'

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

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Project Manager:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987053	Due Date:	5 Day TAT
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061155101		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TAM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.0

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW03	S	11.1.22	8:30	0-3'	Comp	1		X	X	X

ANALYSIS REQUEST / Parameters

890-3347 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 Numbers
NAB1622531873

11.1.22

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11/1/22 1243	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3347-1
SDG Number: 03A1987053

Login Number: 3347
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3347-1
SDG Number: 03A1987053

Login Number: 3347
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/02/22 11:49 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
705 W. Wadley
Suite 210
Midland Texas 79701

Generated 11/16/2022 2:50:59 PM Revision 1

JOB DESCRIPTION

EP USA3
SDG NUMBER 03A1987053

JOB NUMBER

890-3348-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM88220

Client: Ensolum
Project/Site: EP USA3

Laboratory Job ID: 890-3348-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Job ID: 890-3348-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3348-1

REVISION

The report being provided is a revision of the original report sent on 11/8/2022. The report (revision 1) is being revised due to Per client email, client requesting TPH re run.

Report revision history

Receipt
The samples were received on 11/1/2022 12:43 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS04 (890-3348-1) and FS05 (890-3348-2).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-20981-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-38465 and analytical batch 880-38581 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
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: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Client Sample ID: FS04
Date Collected: 11/01/22 09:00
Date Received: 11/01/22 12:43
Sample Depth: 3'

Lab Sample ID: 890-3348-1
Matrix: Solid

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		11/02/22 15:00	11/03/22 16:29	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/02/22 15:00	11/03/22 16:29	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/02/22 15:00	11/03/22 16:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/02/22 15:00	11/03/22 16:29	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/02/22 15:00	11/03/22 16:29	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/02/22 15:00	11/03/22 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:29*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:29*	*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			11/04/22 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**90.8**		50.0		mg/Kg			11/04/22 11:08	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		11/08/22 13:32	11/09/22 04:52	1
Diesel Range Organics (Over C10-C28)	**90.8**		50.0		mg/Kg		11/08/22 13:32	11/09/22 04:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*11/08/22 13:32*	*11/09/22 04:52*	*1*
o-Terphenyl	*108*		*70 - 130*	*11/08/22 13:32*	*11/09/22 04:52*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**216**		25.1		mg/Kg			11/07/22 17:29	5

Client Sample ID: FS05
Date Collected: 11/01/22 09:10
Date Received: 11/01/22 12:43
Sample Depth: 3'

Lab Sample ID: 890-3348-2
Matrix: Solid

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		11/02/22 15:00	11/03/22 16:50	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:50	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:50	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 16:50	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 16:50	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Client Sample ID: FS05
Date Collected: 11/01/22 09:10
Date Received: 11/01/22 12:43
Sample Depth: 3'

Lab Sample ID: 890-3348-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*11/02/22 15:00*	*11/03/22 16:50*	*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			11/04/22 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**78.0**		50.0		mg/Kg			11/04/22 11:08	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		11/08/22 13:32	11/09/22 05:13	1
Diesel Range Organics (Over C10-C28)	**78.0**		50.0		mg/Kg		11/08/22 13:32	11/09/22 05:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/09/22 05:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/08/22 13:32*	*11/09/22 05:13*	*1*
o-Terphenyl	*105*		*70 - 130*	*11/08/22 13:32*	*11/09/22 05:13*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**241**		24.8		mg/Kg			11/07/22 17:36	5

Surrogate Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-20981-A-1-B MS	Matrix Spike	91	93
880-20981-A-1-C MSD	Matrix Spike Duplicate	46 S1-	71
890-3348-1	FS04	107	81
890-3348-2	FS05	72	76
LCS 880-38465/1-A	Lab Control Sample	95	99
LCSD 880-38465/2-A	Lab Control Sample Dup	98	94
MB 880-38465/5-A	Method Blank	98	91

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3348-1	FS04	99	108
890-3348-2	FS05	96	105
890-3393-A-1-C MS	Matrix Spike	88	85
890-3393-A-1-D MSD	Matrix Spike Duplicate	95	90
LCS 880-39001/2-A	Lab Control Sample	109	119
LCSD 880-39001/3-A	Lab Control Sample Dup	100	108
MB 880-39001/1-A	Method Blank	99	114

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38465/5-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*11/02/22 15:00*	*11/03/22 10:56*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*11/02/22 15:00*	*11/03/22 10:56*	*1*

Lab Sample ID: LCS 880-38465/1-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07921		mg/Kg		79	70 - 130
Toluene	0.100	0.08140		mg/Kg		81	70 - 130
Ethylbenzene	0.100	0.08324		mg/Kg		83	70 - 130
m-Xylene & p-Xylene	0.200	0.1632		mg/Kg		82	70 - 130
o-Xylene	0.100	0.09295		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-38465/2-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08528		mg/Kg		85	70 - 130	7	35
Toluene	0.100	0.08804		mg/Kg		88	70 - 130	8	35
Ethylbenzene	0.100	0.09032		mg/Kg		90	70 - 130	8	35
m-Xylene & p-Xylene	0.200	0.1781		mg/Kg		89	70 - 130	9	35
o-Xylene	0.100	0.1002		mg/Kg		100	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 880-20981-A-1-B MS
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U F1 F2	0.0990	0.07448		mg/Kg		74	70 - 130
Toluene	<0.00202	U F1	0.0990	0.07129		mg/Kg		72	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

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

Lab Sample ID: 880-20981-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38581 — **Prep Batch: 38465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U F1 F2	0.0990	0.06359	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	0.00417	F1 F2	0.198	0.1265	F1	mg/Kg		62	70 - 130
o-Xylene	<0.00202	U F1 F2	0.0990	0.06683	F1	mg/Kg		67	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-20981-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38581 — **Prep Batch: 38465**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1 F2	0.0994	0.03522	F1 F2	mg/Kg		34	70 - 130	72	35
Toluene	<0.00202	U F1	0.0994	0.05260	F1	mg/Kg		53	70 - 130	30	35
Ethylbenzene	<0.00202	U F1 F2	0.0994	0.03748	F1 F2	mg/Kg		38	70 - 130	52	35
m-Xylene & p-Xylene	0.00417	F1 F2	0.199	0.06178	F1 F2	mg/Kg		29	70 - 130	69	35
o-Xylene	<0.00202	U F1 F2	0.0994	0.03257	F1 F2	mg/Kg		33	70 - 130	69	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*46*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*

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

Lab Sample ID: MB 880-39001/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38944 — **Prep Batch: 39001**

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		11/08/22 13:32	11/08/22 20:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 20:25	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/08/22 13:32	11/08/22 20:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*
o-Terphenyl	*114*		*70 - 130*	*11/08/22 13:32*	*11/08/22 20:25*	*1*

Lab Sample ID: LCS 880-39001/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38944 — **Prep Batch: 39001**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	972.6		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1026		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-39001/2-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 39001

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: LCSD 880-39001/3-A
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 39001

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	826.3		mg/Kg		83	70 - 130	16	20
Diesel Range Organics (Over C10-C28)			1000	911.4		mg/Kg		91	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 890-3393-A-1-C MS
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 39001

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	946.6		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	997	808.4		mg/Kg		81	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-3393-A-1-D MSD
Matrix: Solid
Analysis Batch: 38944

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 39001

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1139		mg/Kg		111	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	855.3		mg/Kg		86	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	90		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38521/1-A
Matrix: Solid
Analysis Batch: 38782

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			11/05/22 18:57	1

Lab Sample ID: LCS 880-38521/2-A
Matrix: Solid
Analysis Batch: 38782

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.8		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-38521/3-A
Matrix: Solid
Analysis Batch: 38782

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	263.3		mg/Kg		105	90 - 110	1	20

Lab Sample ID: 880-21018-A-2-B MS
Matrix: Solid
Analysis Batch: 38782

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	97.7		249	343.7		mg/Kg		99	90 - 110		

Lab Sample ID: 880-21018-A-2-C MSD
Matrix: Solid
Analysis Batch: 38782

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	97.7		249	340.4		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

GC VOA

Prep Batch: 38465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	5035	
890-3348-2	FS05	Total/NA	Solid	5035	
MB 880-38465/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	8021B	38465
890-3348-2	FS05	Total/NA	Solid	8021B	38465
MB 880-38465/5-A	Method Blank	Total/NA	Solid	8021B	38465
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	8021B	38465
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38465
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	38465
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38465

Analysis Batch: 38750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	Total BTEX	
890-3348-2	FS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	8015 NM	
890-3348-2	FS05	Total/NA	Solid	8015 NM	

Analysis Batch: 38944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	8015B NM	39001
890-3348-2	FS05	Total/NA	Solid	8015B NM	39001
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015B NM	39001
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	39001
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	39001
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	39001
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	39001

Prep Batch: 39001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Total/NA	Solid	8015NM Prep	
890-3348-2	FS05	Total/NA	Solid	8015NM Prep	
MB 880-39001/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-39001/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-39001/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3393-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3393-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 38521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Soluble	Solid	DI Leach	
890-3348-2	FS05	Soluble	Solid	DI Leach	
MB 880-38521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3348-1	FS04	Soluble	Solid	300.0	38521
890-3348-2	FS05	Soluble	Solid	300.0	38521
MB 880-38521/1-A	Method Blank	Soluble	Solid	300.0	38521
LCS 880-38521/2-A	Lab Control Sample	Soluble	Solid	300.0	38521
LCSD 880-38521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38521
880-21018-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	38521
880-21018-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38521

Lab Chronicle

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Client Sample ID: FS04
Date Collected: 11/01/22 09:00
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3348-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	38465	11/02/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38581	11/03/22 16:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38750	11/04/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			38724	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/09/22 04:52	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	38521	11/02/22 14:40	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	38782	11/07/22 17:29	CH	EET MID

Client Sample ID: FS05
Date Collected: 11/01/22 09:10
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3348-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	38465	11/02/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38581	11/03/22 16:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38750	11/04/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			38724	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	39001	11/08/22 13:32	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38944	11/09/22 05:13	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	38521	11/02/22 14:40	CH	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	38782	11/07/22 17:36	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA3

Job ID: 890-3348-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3348-1	FS04	Solid	11/01/22 09:00	11/01/22 12:43	3'
890-3348-2	FS05	Solid	11/01/22 09:10	11/01/22 12:43	3'

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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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2	
Total Containers:		Corrected Temperature:	3.0	

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	Parameters: TPH (8015)	Parameters: BTEX (8021)
FS04	S	11.1.22	9:00	3'	Comp	1		X	X	X
FS05	S	11.1.22	9:10	3'	Comp	1		X	X	X

890-3348 Chain of Custody

Sample Comments

Incident Numbers
NAB1622531873

11.1.22

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Sutton	11/1/22 1243	2		
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3348-1
SDG Number: 03A1987053

Login Number: 3348
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3348-1
SDG Number: 03A1987053

Login Number: 3348
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/02/22 11:49 AM

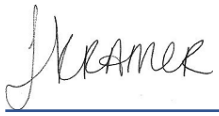
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature 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 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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11/16/2022 2:50:59 PM
Revision 1

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3350-1
Laboratory Sample Delivery Group: 03A1987053
Client Project/Site: EP USA 3

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

Attn: Devon Team

JKramer

Authorized for release by:
11/4/2022 10:38:01 AM

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

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

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3350-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Job ID: 890-3350-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3350-1

Receipt
The samples were received on 11/1/2022 12:43 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS06 (890-3350-1), FS07 (890-3350-2) and FS08 (890-3350-3).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-20981-A-1-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38465 and analytical batch 880-38581 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-38420 and analytical batch 880-38442 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3350-A-1-E MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-38586 and analytical batch 880-38574 was outside control limits. Sample non-homogeneity is suspected.

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: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Client Sample ID: FS06

Lab Sample ID: 890-3350-1
Matrix: Solid
Date Collected: 11/01/22 09:20
Date Received: 11/01/22 12:43
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:07	11/02/22 19:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:07	11/02/22 19:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:07	11/02/22 19:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/02/22 15:07	11/02/22 19:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:07	11/02/22 19:31	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/02/22 15:07	11/02/22 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*11/02/22 15:07*	*11/02/22 19:31*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/02/22 15:07*	*11/02/22 19:31*	*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			11/03/22 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**59.2**		50.0		mg/Kg			11/04/22 11:08	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	**59.2**		50.0		mg/Kg		11/03/22 08:35	11/03/22 23:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U F2	50.0		mg/Kg		11/03/22 08:35	11/03/22 23:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*11/03/22 08:35*	*11/03/22 23:47*	*1*
o-Terphenyl	*91*		*70 - 130*	*11/03/22 08:35*	*11/03/22 23:47*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**176**		5.02		mg/Kg			11/02/22 17:11	1

Client Sample ID: FS07

Lab Sample ID: 890-3350-2
Matrix: Solid
Date Collected: 11/01/22 09:30
Date Received: 11/01/22 12:43
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/01/22 17:00	11/03/22 00:57	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/01/22 17:00	11/03/22 00:57	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/01/22 17:00	11/03/22 00:57	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/01/22 17:00	11/03/22 00:57	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/01/22 17:00	11/03/22 00:57	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/01/22 17:00	11/03/22 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*11/01/22 17:00*	*11/03/22 00:57*	*1*

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Client Sample ID: FS07

Lab Sample ID: 890-3350-2
Matrix: Solid
Date Collected: 11/01/22 09:30
Date Received: 11/01/22 12:43
Sample Depth: 3'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*11/01/22 17:00*	*11/03/22 00:57*	*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			11/03/22 16:02	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			11/04/22 11:08	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		11/03/22 08:35	11/04/22 00:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 00:52	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/03/22 08:35*	*11/04/22 00:52*	*1*
o-Terphenyl	*85*		*70 - 130*	*11/03/22 08:35*	*11/04/22 00:52*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**171**		4.99		mg/Kg			11/02/22 17:19	1

Client Sample ID: FS08

Lab Sample ID: 890-3350-3
Matrix: Solid
Date Collected: 11/01/22 09:40
Date Received: 11/01/22 12:43
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 15:48	1
Toluene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 15:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 15:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 15:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		11/02/22 15:00	11/03/22 15:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		11/02/22 15:00	11/03/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*11/02/22 15:00*	*11/03/22 15:48*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/02/22 15:00*	*11/03/22 15:48*	*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			11/03/22 16:34	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			11/04/22 11:08	1

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Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Client Sample ID: FS08

Date Collected: 11/01/22 09:40
Date Received: 11/01/22 12:43
Sample Depth: 3'

Lab Sample ID: 890-3350-3

Matrix: Solid

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		11/03/22 08:35	11/04/22 01:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 01:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/04/22 01:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*11/03/22 08:35*	*11/04/22 01:14*	*1*
o-Terphenyl	*79*		*70 - 130*	*11/03/22 08:35*	*11/04/22 01:14*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**169**		5.00		mg/Kg			11/02/22 17:42	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-20908-A-2-B MS	Matrix Spike	103	110
880-20908-A-2-C MSD	Matrix Spike Duplicate	98	110
880-20981-A-1-B MS	Matrix Spike	91	93
880-20981-A-1-C MSD	Matrix Spike Duplicate	46 S1-	71
890-3319-A-1-F MS	Matrix Spike	94	106
890-3319-A-1-G MSD	Matrix Spike Duplicate	99	108
890-3350-1	FS06	97	96
890-3350-2	FS07	100	95
890-3350-3	FS08	99	98
LCS 880-38415/1-A	Lab Control Sample	91	105
LCS 880-38420/1-A	Lab Control Sample	92	108
LCS 880-38465/1-A	Lab Control Sample	95	99
LCSD 880-38415/2-A	Lab Control Sample Dup	93	110
LCSD 880-38420/2-A	Lab Control Sample Dup	99	98
LCSD 880-38465/2-A	Lab Control Sample Dup	98	94
MB 880-38415/5-A	Method Blank	85	94
MB 880-38420/5-A	Method Blank	81	91
MB 880-38465/5-A	Method Blank	98	91

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3350-1	FS06	98	91
890-3350-1 MS	FS06	67 S1-	61 S1-
890-3350-1 MSD	FS06	85	74
890-3350-2	FS07	89	85
890-3350-3	FS08	83	79
LCS 880-38586/2-A	Lab Control Sample	99	89
LCSD 880-38586/3-A	Lab Control Sample Dup	105	105
MB 880-38586/1-A	Method Blank	83	80

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38415/5-A
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38415

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:07	11/02/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/01/22 15:07	11/02/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*11/01/22 15:07*	*11/02/22 10:53*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*11/01/22 15:07*	*11/02/22 10:53*	*1*

Lab Sample ID: LCS 880-38415/1-A
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38415

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1004		mg/Kg		100	70 - 130		
Toluene			0.100	0.08754		mg/Kg		88	70 - 130		
Ethylbenzene			0.100	0.08210		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1676		mg/Kg		84	70 - 130		
o-Xylene			0.100	0.08632		mg/Kg		86	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-38415/2-A
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38415

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1038		mg/Kg		104	70 - 130	3	35
Toluene			0.100	0.08958		mg/Kg		90	70 - 130	2	35
Ethylbenzene			0.100	0.08377		mg/Kg		84	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.1698		mg/Kg		85	70 - 130	1	35
o-Xylene			0.100	0.08507		mg/Kg		85	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-3319-A-1-F MS
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38415

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.0998	0.09552		mg/Kg		96	70 - 130		
Toluene	<0.00202	U	0.0998	0.08259		mg/Kg		82	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: 890-3319-A-1-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38442 — **Prep Batch: 38415**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.0998	0.07590		mg/Kg		76	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.200	0.1548		mg/Kg		78	70 - 130
o-Xylene	<0.00202	U	0.0998	0.07740		mg/Kg		78	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3319-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38442 — **Prep Batch: 38415**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.09441		mg/Kg		95	70 - 130	1	35
Toluene	<0.00202	U	0.0990	0.07862		mg/Kg		79	70 - 130	5	35
Ethylbenzene	<0.00202	U	0.0990	0.07386		mg/Kg		75	70 - 130	3	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1485		mg/Kg		75	70 - 130	4	35
o-Xylene	<0.00202	U	0.0990	0.07377		mg/Kg		75	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-38420/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38442 — **Prep Batch: 38420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:19	11/02/22 22:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:19	11/02/22 22:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:19	11/02/22 22:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/01/22 15:19	11/02/22 22:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/01/22 15:19	11/02/22 22:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/01/22 15:19	11/02/22 22:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*11/01/22 15:19*	*11/02/22 22:12*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*11/01/22 15:19*	*11/02/22 22:12*	*1*

Lab Sample ID: LCS 880-38420/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 38442 — **Prep Batch: 38420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1038		mg/Kg		104	70 - 130
Toluene	0.100	0.08908		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08192		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	0.200	0.1665		mg/Kg		83	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-38420/1-A
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38420

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.08367		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-38420/2-A
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38420

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1125		mg/Kg		113	70 - 130	8	35
Toluene			0.100	0.09874		mg/Kg		99	70 - 130	10	35
Ethylbenzene			0.100	0.09245		mg/Kg		92	70 - 130	12	35
m-Xylene & p-Xylene			0.200	0.1906		mg/Kg		95	70 - 130	14	35
o-Xylene			0.100	0.09544		mg/Kg		95	70 - 130	13	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-20908-A-2-B MS
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38420

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.07652		mg/Kg		77	70 - 130		
Toluene	<0.00201	U F1	0.0998	0.04969	F1	mg/Kg		50	70 - 130		
Ethylbenzene	<0.00201	U F1	0.0998	0.03950	F1	mg/Kg		40	70 - 130		
m-Xylene & p-Xylene	<0.00402	U F1	0.200	0.07556	F1	mg/Kg		38	70 - 130		
o-Xylene	<0.00201	U F1	0.0998	0.03627	F1	mg/Kg		36	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 880-20908-A-2-C MSD
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38420

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.07508		mg/Kg		76	70 - 130	2	35
Toluene	<0.00201	U F1	0.0990	0.04880	F1	mg/Kg		49	70 - 130	2	35
Ethylbenzene	<0.00201	U F1	0.0990	0.03713	F1	mg/Kg		38	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.07079	F1	mg/Kg		36	70 - 130	7	35
o-Xylene	<0.00201	U F1	0.0990	0.03414	F1	mg/Kg		34	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: 880-20908-A-2-C MSD
Matrix: Solid
Analysis Batch: 38442

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38420

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: MB 880-38465/5-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/02/22 15:00	11/03/22 10:56	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/02/22 15:00	11/03/22 10:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	11/02/22 15:00	11/03/22 10:56	1
1,4-Difluorobenzene (Surr)	91		70 - 130	11/02/22 15:00	11/03/22 10:56	1

Lab Sample ID: LCS 880-38465/1-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38465

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07921		mg/Kg		79	70 - 130		
Toluene			0.100	0.08140		mg/Kg		81	70 - 130		
Ethylbenzene			0.100	0.08324		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene			0.200	0.1632		mg/Kg		82	70 - 130		
o-Xylene			0.100	0.09295		mg/Kg		93	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-38465/2-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38465

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08528		mg/Kg		85	70 - 130	7	35
Toluene			0.100	0.08804		mg/Kg		88	70 - 130	8	35
Ethylbenzene			0.100	0.09032		mg/Kg		90	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1781		mg/Kg		89	70 - 130	9	35
o-Xylene			0.100	0.1002		mg/Kg		100	70 - 130	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: LCSD 880-38465/2-A
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38465

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

Lab Sample ID: 880-20981-A-1-B MS
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U F1 F2	0.0990	0.07448		mg/Kg		74	70 - 130
Toluene	<0.00202	U F1	0.0990	0.07129		mg/Kg		72	70 - 130
Ethylbenzene	<0.00202	U F1 F2	0.0990	0.06359	F1	mg/Kg		64	70 - 130
m-Xylene & p-Xylene	0.00417	F1 F2	0.198	0.1265	F1	mg/Kg		62	70 - 130
o-Xylene	<0.00202	U F1 F2	0.0990	0.06683	F1	mg/Kg		67	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: 880-20981-A-1-C MSD
Matrix: Solid
Analysis Batch: 38581

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1 F2	0.0994	0.03522	F1 F2	mg/Kg		34	70 - 130	72	35
Toluene	<0.00202	U F1	0.0994	0.05260	F1	mg/Kg		53	70 - 130	30	35
Ethylbenzene	<0.00202	U F1 F2	0.0994	0.03748	F1 F2	mg/Kg		38	70 - 130	52	35
m-Xylene & p-Xylene	0.00417	F1 F2	0.199	0.06178	F1 F2	mg/Kg		29	70 - 130	69	35
o-Xylene	<0.00202	U F1 F2	0.0994	0.03257	F1 F2	mg/Kg		33	70 - 130	69	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	46	S1-	70 - 130
1,4-Difluorobenzene (Surr)	71		70 - 130

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

Lab Sample ID: MB 880-38586/1-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38586

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		11/03/22 08:35	11/03/22 22:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/03/22 08:35	11/03/22 22:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130	11/03/22 08:35	11/03/22 22:42	1
o-Terphenyl	80		70 - 130	11/03/22 08:35	11/03/22 22:42	1

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: LCS 880-38586/2-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	887.3		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1144		mg/Kg		114	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-38586/3-A
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38586

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1084		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)			1000	1300		mg/Kg		130	70 - 130	13	20

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

Lab Sample ID: 890-3350-1 MS
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 38586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	59.2		997	819.8		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F2	997	747.7		mg/Kg		75	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*67*	*S1-*	*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

Lab Sample ID: 890-3350-1 MSD
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 38586

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	59.2		999	958.5		mg/Kg		90	70 - 130	16	20
Diesel Range Organics (Over C10-C28)	<50.0	U F2	999	926.8	F2	mg/Kg		93	70 - 130	21	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*85*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Lab Sample ID: 890-3350-1 MSD
Matrix: Solid
Analysis Batch: 38574

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 38586

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	74		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-38446/1-A
Matrix: Solid
Analysis Batch: 38534

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			11/02/22 14:38	1

Lab Sample ID: LCS 880-38446/2-A
Matrix: Solid
Analysis Batch: 38534

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.4		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-38446/3-A
Matrix: Solid
Analysis Batch: 38534

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	262.4		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-3341-A-4-C MS
Matrix: Solid
Analysis Batch: 38534

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	<4.96	U	248	251.9		mg/Kg		101	90 - 110		

Lab Sample ID: 890-3341-A-4-D MSD
Matrix: Solid
Analysis Batch: 38534

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	<4.96	U	248	259.6		mg/Kg		104	90 - 110	3	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

GC VOA

Prep Batch: 38415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	5035	
MB 880-38415/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38415/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38415/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3319-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-3319-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 38420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-2	FS07	Total/NA	Solid	5035	
MB 880-38420/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38420/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38420/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20908-A-2-B MS	Matrix Spike	Total/NA	Solid	5035	
880-20908-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	8021B	38415
890-3350-2	FS07	Total/NA	Solid	8021B	38420
MB 880-38415/5-A	Method Blank	Total/NA	Solid	8021B	38415
MB 880-38420/5-A	Method Blank	Total/NA	Solid	8021B	38420
LCS 880-38415/1-A	Lab Control Sample	Total/NA	Solid	8021B	38415
LCS 880-38420/1-A	Lab Control Sample	Total/NA	Solid	8021B	38420
LCSD 880-38415/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38415
LCSD 880-38420/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38420
880-20908-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	38420
880-20908-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38420
890-3319-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	38415
890-3319-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38415

Prep Batch: 38465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-3	FS08	Total/NA	Solid	5035	
MB 880-38465/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-3	FS08	Total/NA	Solid	8021B	38465
MB 880-38465/5-A	Method Blank	Total/NA	Solid	8021B	38465
LCS 880-38465/1-A	Lab Control Sample	Total/NA	Solid	8021B	38465
LCSD 880-38465/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38465
880-20981-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	38465
880-20981-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38465

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

GC VOA

Analysis Batch: 38654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	Total BTEX	
890-3350-2	FS07	Total/NA	Solid	Total BTEX	
890-3350-3	FS08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 38574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	8015B NM	38586
890-3350-2	FS07	Total/NA	Solid	8015B NM	38586
890-3350-3	FS08	Total/NA	Solid	8015B NM	38586
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015B NM	38586
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	38586
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	38586
890-3350-1 MS	FS06	Total/NA	Solid	8015B NM	38586
890-3350-1 MSD	FS06	Total/NA	Solid	8015B NM	38586

Prep Batch: 38586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	8015NM Prep	
890-3350-2	FS07	Total/NA	Solid	8015NM Prep	
890-3350-3	FS08	Total/NA	Solid	8015NM Prep	
MB 880-38586/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-38586/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-38586/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3350-1 MS	FS06	Total/NA	Solid	8015NM Prep	
890-3350-1 MSD	FS06	Total/NA	Solid	8015NM Prep	

Analysis Batch: 38722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Total/NA	Solid	8015 NM	
890-3350-2	FS07	Total/NA	Solid	8015 NM	
890-3350-3	FS08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 38446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Soluble	Solid	DI Leach	
890-3350-2	FS07	Soluble	Solid	DI Leach	
890-3350-3	FS08	Soluble	Solid	DI Leach	
MB 880-38446/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-38446/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-38446/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3341-A-4-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3341-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 38534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3350-1	FS06	Soluble	Solid	300.0	38446
890-3350-2	FS07	Soluble	Solid	300.0	38446
890-3350-3	FS08	Soluble	Solid	300.0	38446

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

HPLC/IC (Continued)

Analysis Batch: 38534 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-38446/1-A	Method Blank	Soluble	Solid	300.0	38446
LCS 880-38446/2-A	Lab Control Sample	Soluble	Solid	300.0	38446
LCSD 880-38446/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	38446
890-3341-A-4-C MS	Matrix Spike	Soluble	Solid	300.0	38446
890-3341-A-4-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	38446

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Client Sample ID: FS06

Date Collected: 11/01/22 09:20
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3350-1

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	38415	11/02/22 15:07	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38442	11/02/22 19:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38654	11/03/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			38722	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/03/22 23:47	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	38446	11/02/22 08:10	CH	EET MID
Soluble	Analysis	300.0		1			38534	11/02/22 17:11	CH	EET MID

Client Sample ID: FS07

Date Collected: 11/01/22 09:30
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3350-2

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	38420	11/01/22 17:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38442	11/03/22 00:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38654	11/03/22 16:02	SM	EET MID
Total/NA	Analysis	8015 NM		1			38722	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 00:52	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	38446	11/02/22 08:10	CH	EET MID
Soluble	Analysis	300.0		1			38534	11/02/22 17:19	CH	EET MID

Client Sample ID: FS08

Date Collected: 11/01/22 09:40
Date Received: 11/01/22 12:43

Lab Sample ID: 890-3350-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	38465	11/02/22 15:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38581	11/03/22 15:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38654	11/03/22 16:34	SM	EET MID
Total/NA	Analysis	8015 NM		1			38722	11/04/22 11:08	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	38586	11/03/22 08:35	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	38574	11/04/22 01:14	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	38446	11/02/22 08:10	CH	EET MID
Soluble	Analysis	300.0		1			38534	11/02/22 17:42	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3350-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3350-1	FS06	Solid	11/01/22 09:20	11/01/22 12:43	3'
890-3350-2	FS07	Solid	11/01/22 09:30	11/01/22 12:43	3'
890-3350-3	FS08	Solid	11/01/22 09:40	11/01/22 12:43	3'

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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

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Work Order No: _____

Project Manager:	Ben Belill	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:	989-854-0852 Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TAM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.2	
Total Containers:		Corrected Temperature:	3.0	

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS06	S	11.1.22	9:20	3'	Comp	1		X	X	X
FS07	S	11.1.22	9:30	3'	Comp	2		X	X	X
FS08	S	11.1.22	9:40	3'	Comp	3		X	X	X

ANALYSIS REQUEST / Parameters

890-3350 Chain of Custody

Sample Comments

Incident Numbers
NAB1622531873

11.1.22

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Amanda Stuff	11/1/22 1243			
3			4		
5			6		

Revised Date: 08/25/2020 Rev: 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3350-1
SDG Number: 03A1987053

Login Number: 3350
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3350-1
SDG Number: 03A1987053

Login Number: 3350
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 11/02/22 11:49 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 12/19/2022 4:38:19 PM

JOB DESCRIPTION

EP USA 3
SDG NUMBER 03A1987053

JOB NUMBER

890-3592-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

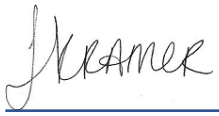
my EOL

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: EP USA 3

Laboratory Job ID: 890-3592-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Job ID: 890-3592-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3592-1

Receipt
The sample was received on 12/6/2022 4:20 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41938 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Client Sample ID: SW05

Date Collected: 12/06/22 10:40
Date Received: 12/06/22 16:20
Sample Depth: 0 - 3

Lab Sample ID: 890-3592-1

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		12/15/22 14:55	12/17/22 04:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:19	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/15/22 14:55	12/17/22 04:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:19	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/15/22 14:55	12/17/22 04:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*12/15/22 14:55*	*12/17/22 04:19*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/15/22 14:55*	*12/17/22 04:19*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/13/22 09:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/08/22 15:23	12/12/22 16:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/08/22 15:23	12/12/22 16:48	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/08/22 15:23	12/12/22 16:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*12/08/22 15:23*	*12/12/22 16:48*	*1*
o-Terphenyl	*120*		*70 - 130*	*12/08/22 15:23*	*12/12/22 16:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**253**		5.03		mg/Kg			12/14/22 11:19	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-22323-A-21-E MS	Matrix Spike	89	100										
880-22323-A-21-F MSD	Matrix Spike Duplicate	106	94										
890-3592-1	SW05	118	102										
LCS 880-41938/1-A	Lab Control Sample	96	99										
LCSD 880-41938/2-A	Lab Control Sample Dup	90	97										
MB 880-41899/5-A	Method Blank	102	87										
MB 880-41938/5-A	Method Blank	92	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)										
890-3585-A-1-C MS	Matrix Spike	104	102										
890-3585-A-1-D MSD	Matrix Spike Duplicate	109	105										
890-3592-1	SW05	106	120										
LCS 880-41386/2-A	Lab Control Sample	103	107										
LCSD 880-41386/3-A	Lab Control Sample Dup	111	118										
MB 880-41386/1-A	Method Blank	136 S1+	197 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

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

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

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

Lab Sample ID: MB 880-41938/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*

Lab Sample ID: LCS 880-41938/1-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09576		mg/Kg		96	70 - 130
Toluene	0.100	0.08860		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08429		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	0.200	0.1814		mg/Kg		91	70 - 130
o-Xylene	0.100	0.09253		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-41938/2-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09194		mg/Kg		92	70 - 130	4	35

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

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

Lab Sample ID: LCSD 880-41938/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08473		mg/Kg		85	70 - 130	4	35
Ethylbenzene			0.100	0.07875		mg/Kg		79	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1684		mg/Kg		84	70 - 130	7	35
o-Xylene			0.100	0.08556		mg/Kg		86	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-22323-A-21-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0998	0.06182	F1	mg/Kg		62	70 - 130
Toluene	<0.00200	U F1	0.0998	0.05097	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00200	U F1	0.0998	0.04186	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.08464	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.04276	F1	mg/Kg		43	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-22323-A-21-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.04526	F1	mg/Kg		46	70 - 130	31	35
Toluene	<0.00200	U F1	0.0990	0.04195	F1	mg/Kg		42	70 - 130	19	35
Ethylbenzene	<0.00200	U F1	0.0990	0.04018	F1	mg/Kg		41	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U F1	0.198	0.08291	F1	mg/Kg		42	70 - 130	2	35
o-Xylene	<0.00200	U F1	0.0990	0.04209	F1	mg/Kg		43	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

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

Lab Sample ID: MB 880-41386/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41561 — **Prep Batch: 41386**

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

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

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

Lab Sample ID: 890-3585-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41561 — **Prep Batch: 41386**

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

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41366/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41730

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

Lab Sample ID: LCS 880-41366/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41730

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

Lab Sample ID: LCSD 880-41366/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41730

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	248.9		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-3585-A-8-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41730

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	246		248	499.6		mg/Kg		102	90 - 110

Lab Sample ID: 890-3585-A-8-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41730

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	246		248	496.9		mg/Kg		101	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	5035	
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	8021B	41938
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	8021B	41938
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41938
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	41938
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41938

Analysis Batch: 42243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	8015NM Prep	
MB 880-41386/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41386/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3585-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3585-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	8015B NM	41386
MB 880-41386/1-A	Method Blank	Total/NA	Solid	8015B NM	41386
LCS 880-41386/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41386
LCSD 880-41386/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41386
890-3585-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41386
890-3585-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41386

Analysis Batch: 41708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 41366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Soluble	Solid	DI Leach	
MB 880-41366/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3592-1	SW05	Soluble	Solid	300.0	41366
MB 880-41366/1-A	Method Blank	Soluble	Solid	300.0	41366
LCS 880-41366/2-A	Lab Control Sample	Soluble	Solid	300.0	41366
LCSD 880-41366/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41366
890-3585-A-8-B MS	Matrix Spike	Soluble	Solid	300.0	41366
890-3585-A-8-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41366

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Client Sample ID: SW05

Date Collected: 12/06/22 10:40
Date Received: 12/06/22 16:20

Lab Sample ID: 890-3592-1

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	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 04:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42243	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41708	12/13/22 09:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41386	12/08/22 15:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41561	12/12/22 16:48	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	41366	12/08/22 12:15	KS	EET MID
Soluble	Analysis	300.0		1			41730	12/14/22 11:19	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3592-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3592-1	SW05	Solid	12/06/22 10:40	12/06/22 16:20	0 - 3

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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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	
Project Number:	03A1987053	☑ Routine ☐ Rush	
Project Location:	Eddy County, 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 #:	1061155101		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#7
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	6.2
Total Containers:		Corrected Temperature:	6.4

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	12.6.22	10:40	0-3'	Comp	1		X	X	X

890-3592 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 Numbers
NAB1622531873

12.6.22

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		12.6.22 1620	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3592-1
SDG Number: 03A1987053

Login Number: 3592
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: 890-3592-1
SDG Number: 03A1987053

Login Number: 3592
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/08/22 11:44 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 12/19/2022 4:39:11 PM

JOB DESCRIPTION

EP USA 3
SDG NUMBER 03A1987053

JOB NUMBER

890-3593-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

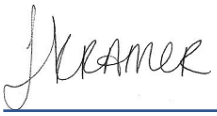
my EOL

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: EP USA 3

Laboratory Job ID: 890-3593-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Job ID: 890-3593-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3593-1

Receipt
The sample was received on 12/6/2022 4:20 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41938 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41374 and analytical batch 880-41317 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-41374 and analytical batch 880-41317 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41295 and 880-41295 and analytical batch 880-41539 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Client Sample ID: SW04

Date Collected: 12/06/22 10:30
Date Received: 12/06/22 16:20
Sample Depth: 0 - 3

Lab Sample ID: 890-3593-1

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		12/15/22 14:55	12/17/22 04:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:40	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 04:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/17/22 04:40	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/15/22 14:55	12/17/22 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*12/15/22 14:55*	*12/17/22 04:40*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*12/15/22 14:55*	*12/17/22 04:40*	*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			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/09/22 11:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 04:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 04:40	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*12/08/22 12:54*	*12/09/22 04:40*	*1*
o-Terphenyl	*125*		*70 - 130*	*12/08/22 12:54*	*12/09/22 04:40*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**171**		5.00		mg/Kg			12/14/22 16:47	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-22323-A-21-E MS	Matrix Spike	89	100										
880-22323-A-21-F MSD	Matrix Spike Duplicate	106	94										
890-3593-1	SW04	119	100										
LCS 880-41938/1-A	Lab Control Sample	96	99										
LCSD 880-41938/2-A	Lab Control Sample Dup	90	97										
MB 880-41899/5-A	Method Blank	102	87										
MB 880-41938/5-A	Method Blank	92	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)										
890-3593-1	SW04	111	125										
890-3595-A-1-F MS	Matrix Spike	115	114										
890-3595-A-1-G MSD	Matrix Spike Duplicate	117	115										
LCS 880-41374/2-A	Lab Control Sample	86	96										
LCSD 880-41374/3-A	Lab Control Sample Dup	81	91										
MB 880-41374/1-A	Method Blank	94	145 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

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

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

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

Lab Sample ID: MB 880-41938/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*

Lab Sample ID: LCS 880-41938/1-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09576		mg/Kg		96	70 - 130
Toluene	0.100	0.08860		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08429		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	0.200	0.1814		mg/Kg		91	70 - 130
o-Xylene	0.100	0.09253		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-41938/2-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09194		mg/Kg		92	70 - 130	4	35

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

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

Lab Sample ID: LCSD 880-41938/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08473		mg/Kg		85	70 - 130	4	35
Ethylbenzene			0.100	0.07875		mg/Kg		79	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1684		mg/Kg		84	70 - 130	7	35
o-Xylene			0.100	0.08556		mg/Kg		86	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-22323-A-21-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0998	0.06182	F1	mg/Kg		62	70 - 130
Toluene	<0.00200	U F1	0.0998	0.05097	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00200	U F1	0.0998	0.04186	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.08464	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.04276	F1	mg/Kg		43	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-22323-A-21-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.04526	F1	mg/Kg		46	70 - 130	31	35
Toluene	<0.00200	U F1	0.0990	0.04195	F1	mg/Kg		42	70 - 130	19	35
Ethylbenzene	<0.00200	U F1	0.0990	0.04018	F1	mg/Kg		41	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U F1	0.198	0.08291	F1	mg/Kg		42	70 - 130	2	35
o-Xylene	<0.00200	U F1	0.0990	0.04209	F1	mg/Kg		43	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

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

Lab Sample ID: MB 880-41374/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41317 — **Prep Batch: 41374**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-41374/1-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41374

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*12/08/22 12:54*	*12/08/22 20:36*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*12/08/22 12:54*	*12/08/22 20:36*	*1*

Lab Sample ID: LCS 880-41374/2-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41374

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	777.3		mg/Kg		78	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	902.1		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: LCSD 880-41374/3-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41374

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	756.0		mg/Kg		76	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	876.3		mg/Kg		88	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-3595-A-1-F MS
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41374

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1034		mg/Kg		99	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	965.1		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*114*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

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

Lab Sample ID: 890-3595-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41317 — **Prep Batch: 41374**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1036		mg/Kg		100	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	972.3		mg/Kg		98	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41295/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/14/22 13:18	1

Lab Sample ID: LCS 880-41295/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	229.6		mg/Kg		92	90 - 110

Lab Sample ID: LCSD 880-41295/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	228.6		mg/Kg		91	90 - 110	0	20

Lab Sample ID: 820-6683-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	141	F1	250	344.6	F1	mg/Kg		81	90 - 110

Lab Sample ID: 820-6683-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	141	F1	250	360.2	F1	mg/Kg		88	90 - 110	4	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	5035	
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	8021B	41938
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	8021B	41938
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41938
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	41938
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41938

Analysis Batch: 42244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 41317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	8015B NM	41374
MB 880-41374/1-A	Method Blank	Total/NA	Solid	8015B NM	41374
LCS 880-41374/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41374
LCSD 880-41374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41374
890-3595-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	41374
890-3595-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41374

Prep Batch: 41374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	8015NM Prep	
MB 880-41374/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41374/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3595-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3595-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 41295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Soluble	Solid	DI Leach	
MB 880-41295/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41295/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41295/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-6683-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
820-6683-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3593-1	SW04	Soluble	Solid	300.0	41295
MB 880-41295/1-A	Method Blank	Soluble	Solid	300.0	41295
LCS 880-41295/2-A	Lab Control Sample	Soluble	Solid	300.0	41295
LCSD 880-41295/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41295
820-6683-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41295
820-6683-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41295

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Client Sample ID: SW04

Date Collected: 12/06/22 10:30
Date Received: 12/06/22 16:20

Lab Sample ID: 890-3593-1

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	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 04:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42244	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41451	12/09/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41374	12/08/22 12:54	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41317	12/09/22 04:40	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41295	12/07/22 15:12	KS	EET MID
Soluble	Analysis	300.0		1			41539	12/14/22 16:47	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3593-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3593-1	SW04	Solid	12/06/22 10:30	12/06/22 16:20	0 - 3

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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:	Ben Belill	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987053	Due Date:	5 Day TAT
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061155101		

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:	6.2
Total Containers:		Corrected Temperature:	6.0

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW04	S	12.6.22	10:30	0-3'	Comp	1		X	X	X

ANALYSIS REQUEST

890-3593 Chain of Custody

Sample Comments

Incident Numbers
NAB1622531873

12.6.22

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		12.6.22 1620	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3593-1
SDG Number: 03A1987053

Login Number: 3593
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: 890-3593-1
SDG Number: 03A1987053

Login Number: 3593
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/08/22 11:44 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 12/19/2022 4:39:40 PM

JOB DESCRIPTION

EP USA 3
SDG NUMBER 03A1987053

JOB NUMBER

890-3594-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

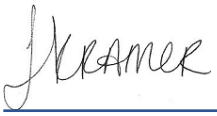
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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12/19/2022 4:39:40 PM

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

Client: Ensolum
Project/Site: EP USA 3

Laboratory Job ID: 890-3594-1
SDG: 03A1987053

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Job ID: 890-3594-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3594-1

Receipt
The sample was received on 12/6/2022 4:20 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41938 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41374 and analytical batch 880-41317 was outside the upper control limits.

Method 8015MOD_NM: The method blank for preparation batch 880-41374 and analytical batch 880-41317 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41295 and 880-41295 and analytical batch 880-41539 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Client Sample ID: SW06

Date Collected: 12/06/22 10:50
Date Received: 12/06/22 16:20

Lab Sample ID: 890-3594-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 05:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 05:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 05:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/15/22 14:55	12/17/22 05:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/15/22 14:55	12/17/22 05:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/15/22 14:55	12/17/22 05:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*12/15/22 14:55*	*12/17/22 05:01*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*12/15/22 14:55*	*12/17/22 05:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/19/22 16:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/09/22 11:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 05:00	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 05:00	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/09/22 05:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*12/08/22 12:54*	*12/09/22 05:00*	*1*
o-Terphenyl	*127*		*70 - 130*	*12/08/22 12:54*	*12/09/22 05:00*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**190**		4.99		mg/Kg			12/14/22 16:55	1

Surrogate Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)										
880-22323-A-21-E MS	Matrix Spike	89	100										
880-22323-A-21-F MSD	Matrix Spike Duplicate	106	94										
890-3594-1	SW06	119	100										
LCS 880-41938/1-A	Lab Control Sample	96	99										
LCSD 880-41938/2-A	Lab Control Sample Dup	90	97										
MB 880-41899/5-A	Method Blank	102	87										
MB 880-41938/5-A	Method Blank	92	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)											
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)										
890-3594-1	SW06	116	127										
890-3595-A-1-F MS	Matrix Spike	115	114										
890-3595-A-1-G MSD	Matrix Spike Duplicate	117	115										
LCS 880-41374/2-A	Lab Control Sample	86	96										
LCSD 880-41374/3-A	Lab Control Sample Dup	81	91										
MB 880-41374/1-A	Method Blank	94	145 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Method: 8021B - Volatile Organic Compounds (GC)

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

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

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

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

Lab Sample ID: MB 880-41938/5-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/15/22 14:55	12/16/22 22:04	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/15/22 14:55	12/16/22 22:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*12/15/22 14:55*	*12/16/22 22:04*	*1*

Lab Sample ID: LCS 880-41938/1-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09576		mg/Kg		96	70 - 130
Toluene	0.100	0.08860		mg/Kg		89	70 - 130
Ethylbenzene	0.100	0.08429		mg/Kg		84	70 - 130
m-Xylene & p-Xylene	0.200	0.1814		mg/Kg		91	70 - 130
o-Xylene	0.100	0.09253		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-41938/2-A
Matrix: Solid
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41938

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09194		mg/Kg		92	70 - 130	4	35

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

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

Lab Sample ID: LCSD 880-41938/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08473		mg/Kg		85	70 - 130	4	35
Ethylbenzene			0.100	0.07875		mg/Kg		79	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.1684		mg/Kg		84	70 - 130	7	35
o-Xylene			0.100	0.08556		mg/Kg		86	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-22323-A-21-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0998	0.06182	F1	mg/Kg		62	70 - 130
Toluene	<0.00200	U F1	0.0998	0.05097	F1	mg/Kg		51	70 - 130
Ethylbenzene	<0.00200	U F1	0.0998	0.04186	F1	mg/Kg		42	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1	0.200	0.08464	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00200	U F1	0.0998	0.04276	F1	mg/Kg		43	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-22323-A-21-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41993 — **Prep Batch: 41938**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.04526	F1	mg/Kg		46	70 - 130	31	35
Toluene	<0.00200	U F1	0.0990	0.04195	F1	mg/Kg		42	70 - 130	19	35
Ethylbenzene	<0.00200	U F1	0.0990	0.04018	F1	mg/Kg		41	70 - 130	4	35
m-Xylene & p-Xylene	<0.00401	U F1	0.198	0.08291	F1	mg/Kg		42	70 - 130	2	35
o-Xylene	<0.00200	U F1	0.0990	0.04209	F1	mg/Kg		43	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

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

Lab Sample ID: MB 880-41374/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41317 — **Prep Batch: 41374**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

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

Lab Sample ID: MB 880-41374/1-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41374

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/08/22 12:54	12/08/22 20:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*12/08/22 12:54*	*12/08/22 20:36*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*12/08/22 12:54*	*12/08/22 20:36*	*1*

Lab Sample ID: LCS 880-41374/2-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41374

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	777.3		mg/Kg		78	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	902.1		mg/Kg		90	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*86*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Lab Sample ID: LCSD 880-41374/3-A
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41374

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	756.0		mg/Kg		76	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	876.3		mg/Kg		88	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

Lab Sample ID: 890-3595-A-1-F MS
Matrix: Solid
Analysis Batch: 41317

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41374

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1034		mg/Kg		99	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	965.1		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*114*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

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

Lab Sample ID: 890-3595-A-1-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41317 — **Prep Batch: 41374**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1036		mg/Kg		100	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	972.3		mg/Kg		98	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*117*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41295/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/14/22 13:18	1

Lab Sample ID: LCS 880-41295/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	229.6		mg/Kg		92	90 - 110

Lab Sample ID: LCSD 880-41295/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	228.6		mg/Kg		91	90 - 110	0	20

Lab Sample ID: 820-6683-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	141	F1	250	344.6	F1	mg/Kg		81	90 - 110

Lab Sample ID: 820-6683-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41539

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	141	F1	250	360.2	F1	mg/Kg		88	90 - 110	4	20

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

GC VOA

Prep Batch: 41899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41899/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	5035	
MB 880-41938/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	5035	
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 41993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	8021B	41938
MB 880-41899/5-A	Method Blank	Total/NA	Solid	8021B	41899
MB 880-41938/5-A	Method Blank	Total/NA	Solid	8021B	41938
LCS 880-41938/1-A	Lab Control Sample	Total/NA	Solid	8021B	41938
LCSD 880-41938/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41938
880-22323-A-21-E MS	Matrix Spike	Total/NA	Solid	8021B	41938
880-22323-A-21-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	41938

Analysis Batch: 42245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 41317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	8015B NM	41374
MB 880-41374/1-A	Method Blank	Total/NA	Solid	8015B NM	41374
LCS 880-41374/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41374
LCSD 880-41374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41374
890-3595-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	41374
890-3595-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41374

Prep Batch: 41374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	8015NM Prep	
MB 880-41374/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41374/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41374/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3595-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3595-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

HPLC/IC

Leach Batch: 41295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Soluble	Solid	DI Leach	
MB 880-41295/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41295/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41295/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
820-6683-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
820-6683-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3594-1	SW06	Soluble	Solid	300.0	41295
MB 880-41295/1-A	Method Blank	Soluble	Solid	300.0	41295
LCS 880-41295/2-A	Lab Control Sample	Soluble	Solid	300.0	41295
LCSD 880-41295/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41295
820-6683-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	41295
820-6683-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41295

Lab Chronicle

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Client Sample ID: SW06

Date Collected: 12/06/22 10:50
Date Received: 12/06/22 16:20

Lab Sample ID: 890-3594-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	41938	12/15/22 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	41993	12/17/22 05:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42245	12/19/22 16:21	SM	EET MID
Total/NA	Analysis	8015 NM		1			41452	12/09/22 11:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41374	12/08/22 12:54	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41317	12/09/22 05:00	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41295	12/07/22 15:12	KS	EET MID
Soluble	Analysis	300.0		1			41539	12/14/22 16:55	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: EP USA 3

Job ID: 890-3594-1
SDG: 03A1987053

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-3594-1	SW06	Solid	12/06/22 10:50	12/06/22 16:20

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

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Project Manager:	Ben Belill	Bill to: (if different)	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:	989-854-0852	Email:	BBelill@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:	EP USA 3	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987053	Due Date:	5 Day TAT
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Gilbert Moreno		
CC #:	1061155101		

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:	6.2	
Total Containers:		Corrected Temperature:	6.0	

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 Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW06	S	12.6.22	10:50	0-3'	Comp	1		X	X	X

Parameters

ANALYSIS REQUEST

890-3594 Chain of Custody

Sample Comments

Incident Numbers
NAB1622531873

12.6.22

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		12.6.22 1638	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3594-1
SDG Number: 03A1987053

Login Number: 3594
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: 890-3594-1
SDG Number: 03A1987053

Login Number: 3594
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/08/22 11:44 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 F

Email Correspondence

From: Joseph Hernandez
To: Devon-Team
Subject: FW: [EXTERNAL] WPX Site Sampling Activity Update (9/26-30)
Date: Monday, September 26, 2022 11:03:53 AM
Attachments: image001.png
image002.png
image003.png
image004.png

EH,

Save to folder please.

Joseph S. Hernandez
Senior Geologist
281-702-2329
Ensolum, LLC

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, September 26, 2022 10:16 AM
To: Joseph Hernandez <jhernandez@ensolum.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: FW: [EXTERNAL] WPX Site Sampling Activity Update (9/26-30)

[**EXTERNAL EMAIL**]

Joseph

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.

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Monday, September 26, 2022 8:07 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: Fw: [EXTERNAL] WPX Site Sampling Activity Update (9/26-30)

From: Joseph Hernandez <jhernandez@ensolum.com>
Sent: Sunday, September 25, 2022 4:57 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 (9/26-30)

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between September 26-30, 2022:

Site: RDX 17-20
API: 30-015-41381
Incident Number: NAB1422341439, NAB1706053151

Site: EP USA 3
API: 30-015-24249
Incident Number: nAB1622531873

Joseph S. Hernandez

Senior Geologist

281-702-2329

Ensolum, LLC

From: Nobui, Jennifer, EMNRD
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: FW: [EXTERNAL] WPX Site Sampling Activity Update (10/3-10/7)
Date: Monday, October 3, 2022 10:50:26 AM
Attachments: image001.png
image002.png
image003.png
image004.png

[**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.

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Monday, October 3, 2022 8:15 AM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: Fw: [EXTERNAL] WPX Site Sampling Activity Update (10/3-10/7)

From: Erick Herrera <eherrera@ensolum.com>
Sent: Friday, September 30, 2022 4:17 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO_Spill, BLM_NM' <BLM_NM_CFO_Spill@blm.gov>
Cc: jim.raley@dvn.com <jim.raley@dvn.com>; Devon-Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (10/3-10/7)

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 sites between October 3 – October 7, 2022:

Site Name: RDX 17-21
API: 30-015-41088
Incident Number: NAB1725454826

Site Name: EP USA 3
API: 30-015-24249
Incident Number: NAB1622531873

Erick Hererra
Staff Geologist
281-777-4152
Ensolum, LLC

From: Harimon, Jocelyn, EMNRD
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD
Subject: RE: WPX Site Sampling Activity Update (10/24-10/28)
Date: Friday, October 21, 2022 5:04:05 PM
Attachments: image001.png
image002.png
image003.png
image004.png

[**EXTERNAL EMAIL**]

Erick,

Thank you for the notification. Be aware that the relevant portion/portions of 19.15.29 NMAC requires notification two business days prior to obtaining confirmation samples. The same is required for liner inspections as well. You may request a variance from this requirement "upon a showing of good cause as determined by the division." A notification on Friday afternoon would allow for sampling or liner inspection the following Wednesday. Also, please include the OCD generated incident number on all notifications, and include a copy of all correspondence in the remediation proposal and/or closure report.

Since this notification requirement has largely been interpreted as meaning 48 hours, you may proceed on your schedule for this one, just be aware of the requirement going forward.

Thank you,

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@state.nm.us
http:// **www.emnrd.nm.gov**

From: Erick Herrera <eherrera@ensolum.com>
Sent: Friday, October 21, 2022 3:05 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 (10/24-10/28)

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 sites between October 24 – October 28, 2022:

Site Name: RDX Federal 17-21
API: 30-015-41088
Incident Number: NAB1725454826

Site Name: EP USA 3
API: 30-015-24249
Incident Number: NAB1622531873

Site Name: Electrolux 21 State Com #001
API: 30-025-35769
Incident Number: nTO1424150643

Thank you,

Erick Hererra
Staff Geologist
281-777-4152
Ensolum, LLC

Erick Herrera

From: Erick Herrera
Sent: Wednesday, October 26, 2022 3:01 PM
To: OCD.Enviro@emnrd.nm.gov; 'CFO_Spill, BLM_NM'
Cc: Raley, Jim
Subject: WPX Site Sampling Activity Update (10/31 - 11/4)

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between October 31 – November 4, 2022:

Site Name: RDX 9-1
API: 30-015-36211
Incident Number: nAB1728635377

Site Name: RDX 17-2
API: 30-015-36464
Incident Number: nAB1633449255

Site Name: LVP SWD #001
API: 30-015-42234
Incident Number: nAPP2135033453

Site Name: RDX Federal 21-44
API: 30-015-41193
Incident Number: nAPP2115533694

Site Name: RDU 54
API: 30-015-41975
Incident Number: nAB1722953239

Site Name: Electrolux 21 State Com #001
API: 30-025-35769
Incident Number: nTO1424150643

Site Name: EP USA 3
API: 30-015-24249
Incident Number: nAB1622531873

Thank you,

Erick Hererra
Staff Geologist
281-777-4152
Ensolum, LLC

PLEASE NOTE OUR NEW CORPORATE ADDRESS:
Ensolum, LLC
8330 LBJ Freeway, Ste. B830
Dallas, TX 75243

Erick Herrera

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Wednesday, November 23, 2022 5:29 PM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Subject: RE: [EXTERNAL] WPX Site Sampling Activity Update (11/28 - 12/2)

[**EXTERNAL EMAIL**]

Please be aware that notification requirements are **two business days**, per rule. Please proceed on your schedule. Also, please include this, and all correspondence, in the closure report to insure inclusion in the project file.

Many thanks and happy holidays!

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, November 23, 2022 3:32 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 (11/28 - 12/2)

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 sites between November 28 – December 2, 2022:

Site Name: RDX 16-4
API: 30-015-39750
Incident Number: nAPP2223636403

Site Name: EP USA 3
API: 30-015-24249
Incident Number: NAB1622531873

Site Name: MWJ Federal 1
API: 30-015-24262
Incident Number: nAB1503440420, nAB1524652333, and nAB1719940724

Thank you,

Erick Herrera
Staff Geologist
281-777-4152
Ensolum, LLC

PLEASE NOTE OUR NEW CORPORATE ADDRESS:
Ensolum, LLC
8330 LBJ Freeway, Ste. B830
Dallas, TX 75243

Erick Herrera

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Wednesday, November 30, 2022 4:33 PM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Subject: RE: [EXTERNAL] WPX Site Sampling Activity Update (12/5- 12/9)

[**EXTERNAL EMAIL**]

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.

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, November 30, 2022 3:27 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 (12/5- 12/9)

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 sites between December 5 – December 9, 2022:

Site Name: RDX 16-4
API: 30-015-39750
Incident Number: nAPP2223636403

Site Name: EP USA 3
API: 30-015-24249
Incident Number: NAB1622531873

Thank you,

Erick Herrera
Staff Geologist
281-777-4152
Ensolum, LLC

PLEASE NOTE OUR NEW CORPORATE ADDRESS:
Ensolum, LLC
8330 LBJ Freeway, Ste. B830
Dallas, TX 75243

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 215897

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 215897
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	5/17/2023