ENSOLUM

CLOSURE REQUEST REPORT

Site Location:

RDX 17-21
Eddy County, New Mexico
Incident Number:
nAB1725454826

February 15, 2024
Ensolum Project No. 03A1987049

Prepared for:

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1.0 INTRODUCTION

1.1 Site Description

Ensolum, LLC (Ensolum) has prepared this Closure Request Report (CRR) to document assessment, soil sampling activities, and corrective actions performed to date by WPX Energy Permian, LLC (WPX) at the RDX 17-21 (Site) in Unit I, Section 17, Township 26 South, Range 30 East, in Eddy County, New Mexico (**Figure 1**). Based on the completed remedial actions for the release of crude oil and produced water at the Site, WPX respectfully requests no further action (NFA) for Incident Number nAB1725454826.

On January 24, 2017, 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. After reassessing field activities previously completed for the current applicability of the reclamation requirement detailed in Title 19, Chapter 15, Part 29, Section 13 (19.15.29.13) of the New Mexico Administrative Code (NMAC), WPX determined additional remedial actions were warranted. 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 Centerstack portal.

1.2 Release Background

On August 22, 2017, a gauge failure resulted in the release of approximately 15 barrels (bbls) of crude oil and produced water onto the well pad surface. A vacuum truck was immediately dispatched to the Site and recovered 10 bbls of fluids. The incident was reported to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) on August 22, 2017, and was subsequently assigned Incident Number nAB1725454826. The Form C-141 is provided in **Appendix A.**

1.3 Site Characterization

The Site was characterized according to Table I, Closure Criteria for Soils Impacted by a Release, from 19.15.29.12 of the NMAC. Results from the characterization desktop review are presented on page 3 of Form C-141, Site Assessment/Characterization. Potential Site receptors are identified in **Figure 1.**

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring (RDX 17-3), drilled by Talon LPE for WPX on December 8, 2020, which is located approximately 0.29 miles south of the Site. The soil boring location can be referenced in **Figure 1**. Using a truck mounted drill rig equipped with hollow stem augers, the soil boring was advanced to a total depth of 107 feet bgs and left open to equilibrate for at least 72 hours; no fluids were observed within the soil boring. Following the observation period, the boring was properly plugged and abandoned. The well record is provided in **Appendix B**.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 526 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, and wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (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
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13 NMAC for the top 4 feet of areas that will be immediately reclaimed following remediation.

2.0 REMEDIATION ACTIONS

2.1 Delineation Activities

On August 24, 2022, 11 delineation potholes (PH01 through PH11) were advanced via mechanical equipment within and around the release extent to assess the presence or absence of impacted soil. Ensolum directed delineation activities through field screening 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 and the greatest depth. The locations of the delineation samples are depicted on **Figure 2**. Field screening results and observations for each delineation soil sample were recorded on lithologic/soil sampling logs **(Appendix C).** Photographic documentation of 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 for delineation soil samples collected from PH02, PH03 and PH05 indicated chloride concentrations exceeded the applicable Site Closure Criteria. Laboratory analytical results for all other delineation soil samples indicated all COCs were below the applicable Closure Criteria and assisted with defining the lateral extent of impacts at the Site. Based on the presence of impacted soil in soil samples PH02, PH03, and PH05, additional remedial actions were warranted, remedial actions taken are described in the below sections.

2.3 Excavation Activities

During the month of October 2022, Ensolum was onsite to oversee excavation activities utilizing heavy equipment. Excavation activities were directed by referencing laboratory analytical results for potholes PH02, PH03, and PH05 and field screening soil for VOCs and chloride as previously

described. As a result, two separate excavations were advanced - a western excavation and an eastern excavation - to address the areas of concern. A photographic log of the excavations is included and can be referenced in **Appendix D**.

Following the removal of impacted soil, Ensolum collected 5-point composite excavation confirmation soil samples every 200 square feet from the floor and sidewalls of the western and eastern 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. From the western excavation, confirmation samples FS01 through FS04 were collected from the floor of the excavation at 2.5 feet bgs and confirmation samples SW01 and SW02 were collected from the excavation sidewalls at depths ranging from the ground surface to 2.5 feet bgs. From the eastern excavation, confirmation samples FS05 through FS13 were collected from the floor of the excavation at 4 feet bgs and confirmation samples SW03 through SW07 were collected from the excavation sidewalls at depths ranging from the ground surface to 4 feet bgs. The confirmation excavation soil samples were handled and analyzed for COCs following the same procedures described above. The excavation extent and excavation confirmation soil samples are depicted on **Figure 3**.

2.4 Laboratory Analytical Results

Analytical results indicated all COCs concentrations were in compliance with the Site Closure Criteria except for SW06. As a result, the excavation was advanced in the respective area. Following the removal of impacted soil, Ensolum collected one 5-point composite confirmation excavation soil sample (SW08) from the new excavation sidewall (**Figure 3**). The confirmation soil sample was collected, handled and analyzed following the same procedures as previously described. The analytical results indicated all COC concentrations were in compliance with the applicable Site Closure Criteria.

The 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 releases.

2.5 Waste Handling

The final western excavation area measured approximately 800 square feet in areal extent with a total depth of approximately 2.5 feet bgs. The final eastern excavation area extended approximately 1,625 square feet to a total depth of approximately 4 feet bgs. Approximately 350 cubic yards of impacted and waste-containing soil were excavated in total. All soil was hauled to an R360 landfill facility located in Orla, Texas under WPX-approved manifests.

3.0 RECLAMATION PLAN

The releases occurred off and on pad and as such, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the off pad area that was impacted by the release per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation. The following Reclamation Plan addresses reclamation of the off-pad area:

- The excavation was be backfilled with locally sourced caliche and topsoil to match surrounding grade. Approximately 1-foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;

- Soil in the vicinity of the release include: Kermit-Palomas fine sands land complex, 0 to 12 percent slopes according to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey completed on February 6, 2024;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed by the BLM to meet reclamation standards for this region, which will be: BLM Seed Mixture 2 for sandy soils;
- The seed mixture will be distributed with either a push broadcaster seed spreader, tractor operated broadcast seed spreader, drill seeding, or other means;
- Application of the seed mixture will be at a coverage of 10 pounds of seeds per acre of reclaimed pasture with distrbution by a drilling method or 20 pounds of seeds per acre of reclaimed pasture with distribution by a broadcast method;
- Erosion control management is not anticipated, but if needed, will potentially include:
    - The placement of waddles in areas with a propensity for high run off rates;
    - Straw cover if high winds are anticipated to support moisture retention and limit wind from blowing seeds away before they have had time to germinate; and/or
    - Other erosional control best management practices (BMP) as necessary to support timely and healthy regrowth of vegetation in disturbed areas;
- Backfilling of the excavation has already been completed.
- Seeding is anticipated to be completed in the Spring when temperatures and precipitation is most conducive for vegetation growth. In general, seeding should occur approximately one month after the last frost in the Spring 2024 up until approximately one month prior to the first fall frost. BLM has recognized the optimal time to seed is between July and early September, which will be adhered to for this Site;
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following Spring/Fall to assess the success of regrowth. If necessary, an additional application of the BLM-approved pure live seed mixture will be applied as well as any needed BMPs will be installed to support growth and limit erosion;
- Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to BLM for final inspection and release.

4.0 CLOSURE REQUEST

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

- Laboratory analytical results for delineation soil samples from potholes PH01, PH04, and PH06 though PH11 were in compliance with the Site Closure Criteria, thus provide additional confirmation for the lateral delineation of soil impacts;
- Identified chloride concentrations exceeding the reclamation requirement in delineation potholes PH02, PH03 and PH05 were subsequently excavated via mechanical equipment. Approximately **350 cubic yards** of impacted 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;

- The excavation was backfilled with locally sourced caliche and topsoil to match surrounding grade and pre-existing Site conditions. Approximately 1-foot of topsoil was placed on top of the caliche to support vegetative growth within the disturbed area; The backfilled areas will be seeded utilizing a weed-free seed mix designed by the BLM to meet reclamation standards for this region, which will be BLM Seed Mixture 2, for sandy soils.

Based on the conclusions presented, WPX believes the remediation activities described above have met the requirements set forth in 19.15.29.13 NMAC to be protective of human health, the environment, and groundwater. As such, WPX respectfully requests closure of Incident Number nAB1725454826.

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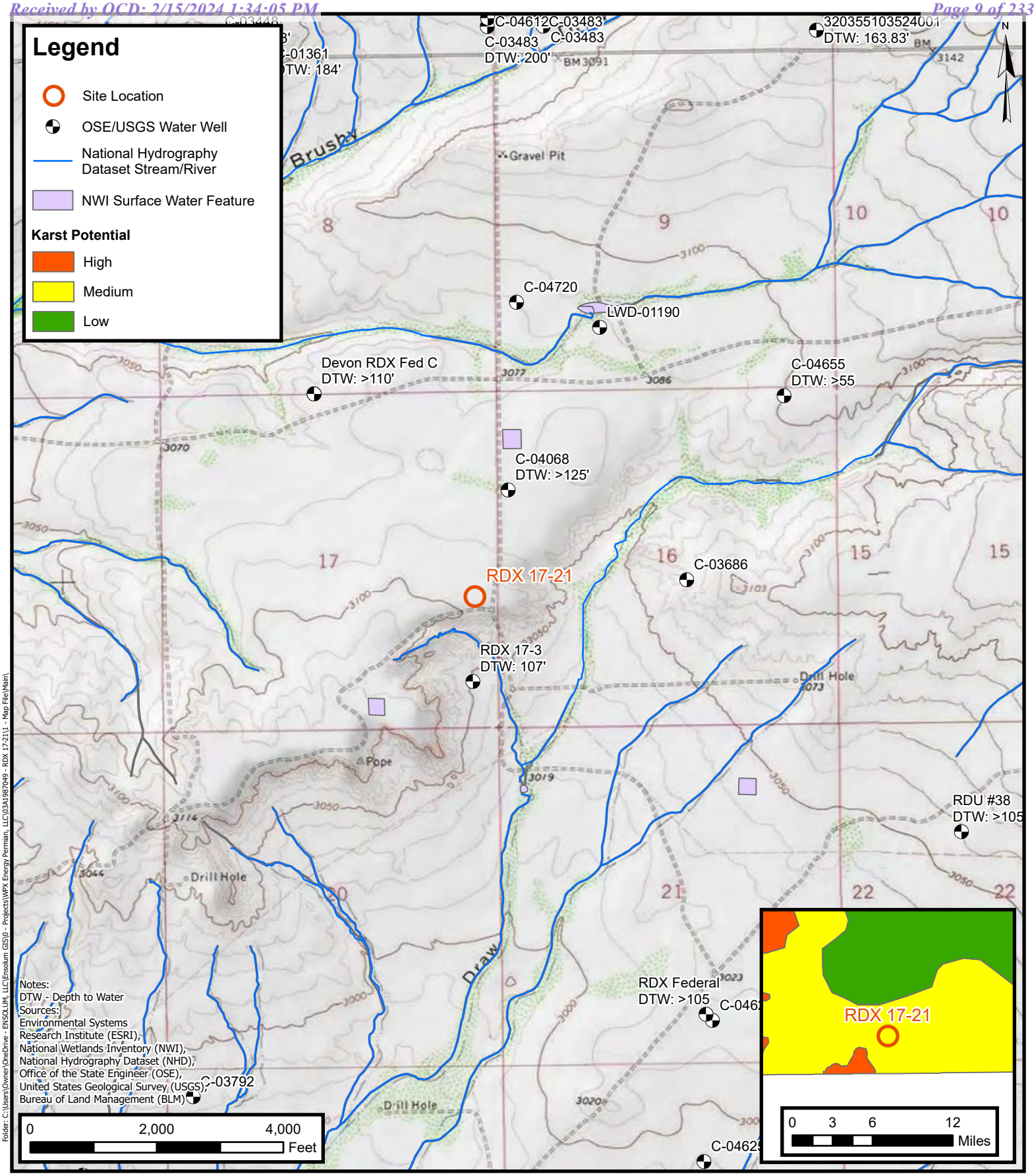
Figures



Folder: C:\Users\Owner\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\WPX Energy Permian, LLC\03A1987049 - RDX 17-21\1 - Map File\Main\

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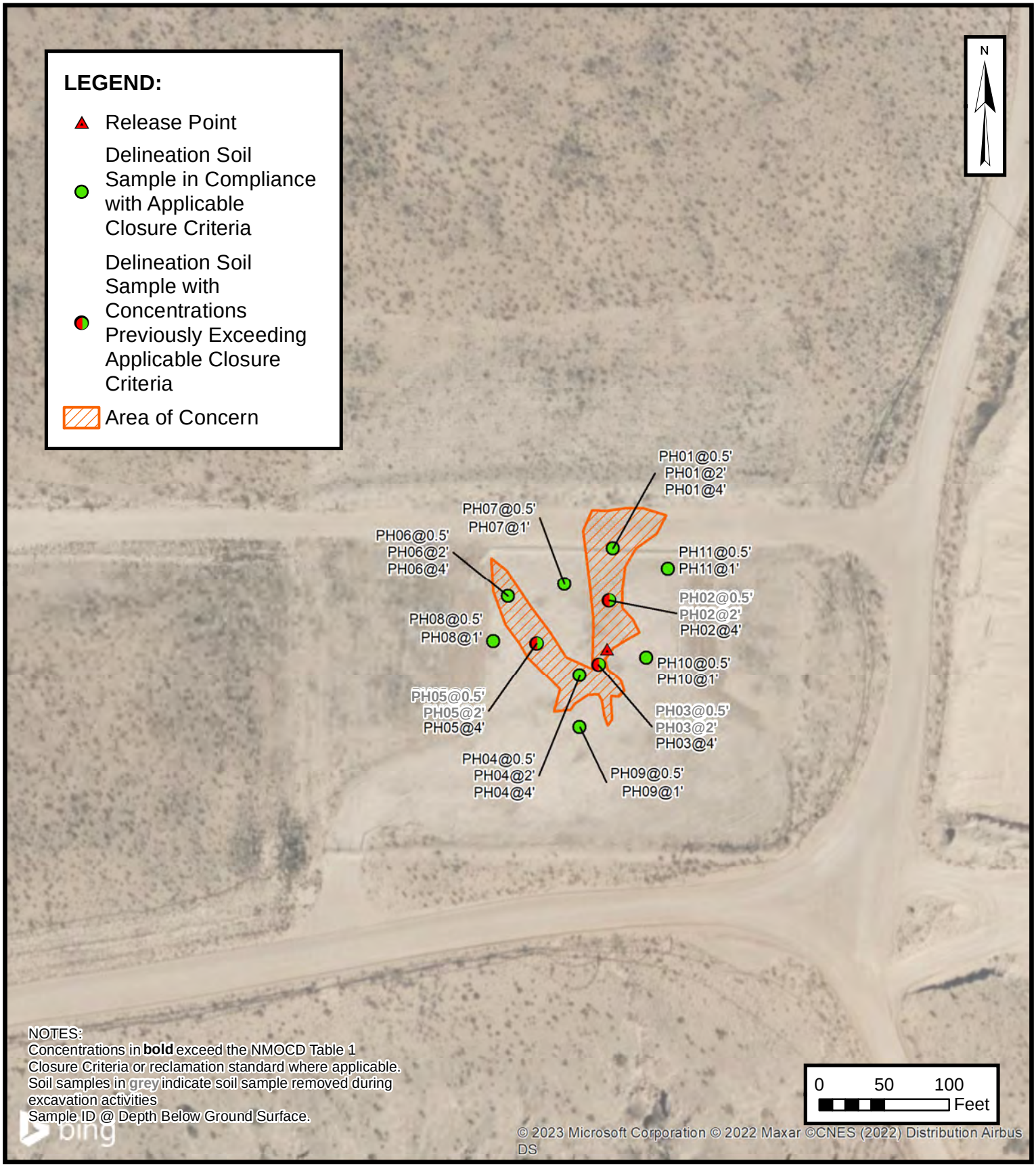
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

WPX Energy Permian, LLC
RDX 17-21
Incident Number: nAB1725454826
Unit I, Section 17, T 26S, R 30E
Eddy County, New Mexico

FIGURE 1



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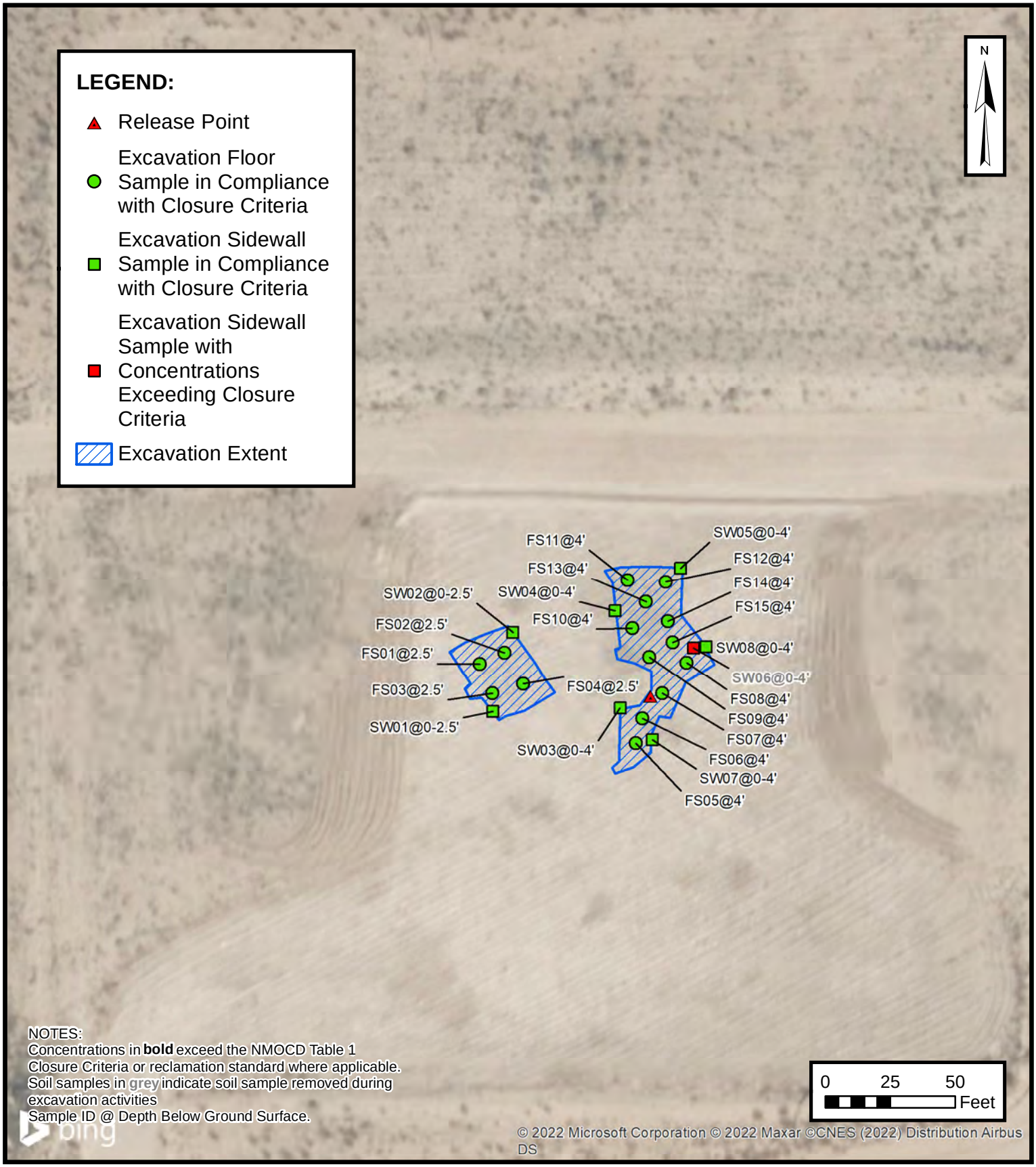
DELINEATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC
RDX 17-21
Incident Number: nAB1725454826
Unit I Sec 17 T26S R30E
Eddy County, New Mexico

FIGURE
2



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EXCAVATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC
RDX 17-21
Incident Number: nAB1725454826
Unit I Sec 17 T26S R30E
Eddy County, New Mexico

FIGURE
3

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Tables

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
WXP Energy Permian, LLC - RDX 17-21
Eddy County, New Mexico

Ensolum Project No. 03A1987049

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	08/24/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	496
PH01	08/24/2022	2	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	175
PH01	08/24/2022	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	1,130
PH02	08/24/2022	0.5	<0.00198*	<0.00396*	<50.0*	<50.0*	<50.0*	<50.0*	<50.0*	**3,360***
PH02	08/24/2022	2	<0.00201*	<0.00402*	<50.0*	<50.0*	<50.0*	<50.0*	<50.0*	**2,250***
PH02	08/24/2022	4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	4,700
PH03	08/24/2022	0.5	<0.00199*	<0.00398*	<50.0*	<50.0*	<50.0*	<50.0*	<50.0*	**1,200***
PH03	08/24/2022	2	<0.00200*	<0.00401*	<50.0*	<50.0*	<50.0*	<50.0*	<50.0*	**1,100***
PH03	08/24/2022	4	<0.00200	<0.00400	<50.0	81.0	<50.0	81.0	81.0	1,360
PH04	08/24/2022	0.5	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	208
PH04	08/24/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	60.8
PH04	08/24/2022	4	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	342

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 or reclamation standard where applicable.
Grey text indicate soil sample removed during excavation activities
** indicates soil in the top 4 feet of pasture to be reclaimed*
NMAC: New Mexico Administrative Code

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TABLE 1
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WXP Energy Permian, LLC - RDX 17-21
Eddy County, New Mexico

Ensolum Project No. 03A1987049

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 Cont'd										
PH05	08/24/2022	2	<0.00199*	<0.00398*	<49.9*	<49.9*	<49.9*	<49.9*	<49.9*	**762***
PH05	08/24/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	513
PH06	08/24/2022	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	226
PH06	08/24/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	115
PH06	08/24/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	238
PH07	08/24/2022	0.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	151
PH07	08/24/2022	1	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	25.8
PH08	08/24/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	344
PH08	08/24/2022	1	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	123
PH09	08/24/2022	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	84.9
PH09	08/24/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	79.0
PH10	08/24/2022	0.5	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	138
PH10	08/24/2022	1	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	24.1
PH11	08/24/2022	0.5	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	190
PH11	08/24/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	301

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 or reclamation standard where applicable.
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Eddy County, New Mexico

Ensolum Project No. 03A1987049

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Excavation Floor Soil Sample Analytical Results										
FS01	10/05/2022	2.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	113
FS02	10/05/2022	2.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	81.9
FS03	10/05/2022	2.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	41.3
FS04	10/05/2022	2.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	285
FS05	10/06/2022	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	91.3
FS06	10/06/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	223
FS07	10/06/2022	4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	191
FS08	10/06/2022	4	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	1,170
FS09	10/06/2022	4	0.00890	0.00890	<49.8	<49.8	<49.8	<49.8	<49.8	355
FS10	10/06/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	390
FS11	10/06/2022	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	134
FS12	10/06/2022	4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	520
FS13	10/06/2022	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	364
FS14	10/06/2022	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	1,470
FS15	10/06/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	527

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 or reclamation standard where applicable.
Grey text indicate soil sample removed during excavation activities
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WXP Energy Permian, LLC - RDX 17-21
Eddy County, New Mexico

Ensolum Project No. 03A1987049

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Excavation Sidewall Soil Sample Analytical Results Cont'd										
SW01	10/05/2022	0 - 2.5	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	30.9
SW02	10/05/2022	0 - 2.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	146
SW03	10/06/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	96.2
SW04	10/06/2022	0 - 4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	77.7
SW05	10/06/2022	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	40.2
SW06	10/06/2022	0 - 4	<0.00201*	<0.00402*	<49.9*	<49.9*	<49.9*	<49.9*	<49.9*	**1,360***
SW07	10/06/2022	0 - 4	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	261
SW08	10/24/2022	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	87.0

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 or reclamation standard where applicable.
Grey text indicate soil sample removed during excavation activities
** indicates soil in the top 4 feet of pasture to be reclaimed*
NMAC: New Mexico Administrative Code

ENSOLUM

APPENDIX B

Well Record

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: MW-1		Location: RDX 17 #3	
Date: 12/8/2020		Client: WPX Energy	
Drilling Method: Air Rotary	Sampling Method: None	Logged By: J. Linn, PG	Drilled By: Talon LPE
Gravel Pack Type: 10/20 Sand	Gravel Pack Depth Interval: 3 Bags	Seal Type: None / Seal Depth Interval: None	Latitude: 32.036765
Casing Type: PVC / Diameter: 2-inch / Depth Interval: 0-102 feet bgs		Boring Total Depth (ft. BGS): 107	Longitude: -103.895993
Screen Type: PVC / Slot: 0.010-inch / Diameter: 2-inch / Depth Interval: 102-107 ft		Well Total Depth (ft. BGS): 107	Depth to Water (ft. BTOC): > 107 / DTW Date: 12/16/2020

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0	NM	L	D	N	N	NM	SP	NS	Pale orange poorly graded fine sand	
5										
10										
15										
20										
25										
30	NM	L	D	N	N	NM	SP	NS	Same as above with slight increase in coarse sand and gravel	
35										
40	NM	L	D	N	N	NM	SP	NS	Pale orange poorly graded fine sand with very slight silt	
45										
50										
55	NM	L	D	N	N	NM	SP	NS	Pale orange poorly graded fine sand	
60	NM	L	D	N	N	NM	SW	NS	Pale orange well graded fine sand	
65	NM	M	SL M	N	N	NM	SM	NS	Pale red orange clayey silty fine sand with minor coarse sand and gravel	
70										
75										
80										
85										
90	NM	L	SL M	N	N	NM	SP	NS	Pale orange poorly sorted fine sand - TD 107' BGS	
95										
100										
105										

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.041172, -103.895923	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		
D	582	0.2	N	PH01	0.5'	0.5'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	280	0.3	N		1'	1'		
D	280	0.2	N	PH01	2'	2'		
D	845	0.4	N		3'	3'		
D	772	0.3	N	PH01	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH02	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.041061, -103.895933	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		
D	>3,516	0.2	N	PH02	0.5'	0.5'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel,
D	280	0.1	N		1'	1'		no odor, no staining, dry.
D	2,430	0.2	N	PH02	2'	2'		
D	2,811	0.1	N		3'	3'		
D	582	0.1	N	PH02	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH03	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040928, -103.895959	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		
D	1,086 280	0.2	N	PH03	0.5' 1'	0.5' 1'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	845	0.3	N	PH03	2'	2'		
					3'	3'		
D	918	0.1	N	PH03	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH04	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040905, -103.896005	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		
D	240 280	0.1	N	PH04	0.5' 1'	0.5' 1'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	630	0.4	N	PH04	2'	2'		
					3'	3'		
D	324	0.2	N	PH04	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH05	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040972, -103.896111	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		
D	1,584 280	0.2	N	PH05	0.5' 1'	0.5' 1'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	638	0.2	N	PH05	2'	2'		
					3'	3'		
D	845	0.2	N	PH05	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH06	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.041071, -103.896182	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		
D	280	0.2	N	PH06	0.5'	0.5'	CCHE	(0-4') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
	280				1'	1'		
D	324	0.3	N	PH06	2'	2'		
					3'	3'		
D	280	0.2	N	PH06	4'	4'		

Total Depth: 4 feet bgs

ENSOLUM

	Sample Name: PH07	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.041096, -103.896043	Hole Diameter: N/A	Total Depth: 1'

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
D	280	0.1	N	PH07	0.5'	0 0.5'	CCHE	(0-1') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	280	0.1	N	PH07	1'	1'		
					2'	2'		
					3'	3'		
					4'	4'		

Total Depth: 1 foot bgs

ENSOLUM

	Sample Name: PH08	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040977, -103.896218	Hole Diameter: N/A	Total Depth: 1'

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
D D	240 280	0.1 0.1	N N	PH08 PH08	0.5' 1'	0 0.5' 1'	CCHE	(0-1') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
					2'	2'		
					3'	3'		
					4'	4'		

Total Depth: 1 foot bgs

ENSOLUM

	Sample Name: PH09	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040796, -103.896005	Hole Diameter: N/A	Total Depth: 1'

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
D D	<168 280	0.2 0.1	N N	PH09 PH09	0.5' 1'	0 0.5' 1'	CCHE	(0-1') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
					2'	2'		
					3'	3'		
					4'	4'		

Total Depth: 1 foot bgs

ENSOLUM

	Sample Name: PH10	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.040942, -103.895840	Hole Diameter: N/A	Total Depth: 1'

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
D	168	0.3	N	PH10	0.5'	0.5'	CCHE	(0-1') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.
D	280	0.3	N	PH10	1'	1'		
					2'	2'		
					3'	3'		
					4'	4'		

Total Depth: 1 foot bgs

ENSOLUM

	Sample Name: PH11	Date: 8-24-2022
	Site Name: RDX 17-21	
	Incident Number: NAB1725454826	
	Job Number: 03A1987049	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: LC	Method: Backhoe
Coordinates: 32.041128, -103.895787	Hole Diameter: N/A	Total Depth: 1'

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
D D	<168 280	0.1 0	N N	PH11 PH11	0.5' 1' 2' 3' 4'	0 0.5' 1' 2' 3' 4'	CCHE	(0-1') Caliche, tan, fine grain with med. gravel, no odor, no staining, dry.

Total Depth: 1 foot bgs

ENSOLUM

APPENDIX D

Photographic Log

ENSOLUM

Photographic Log
WPX Energy Permian, LLC.
RDX 17-21
Incident Number NAB1725454826
Ensolum Job Number: 03A1987049

Photograph 1
Date: 07/22/2021
Description: Initial Release

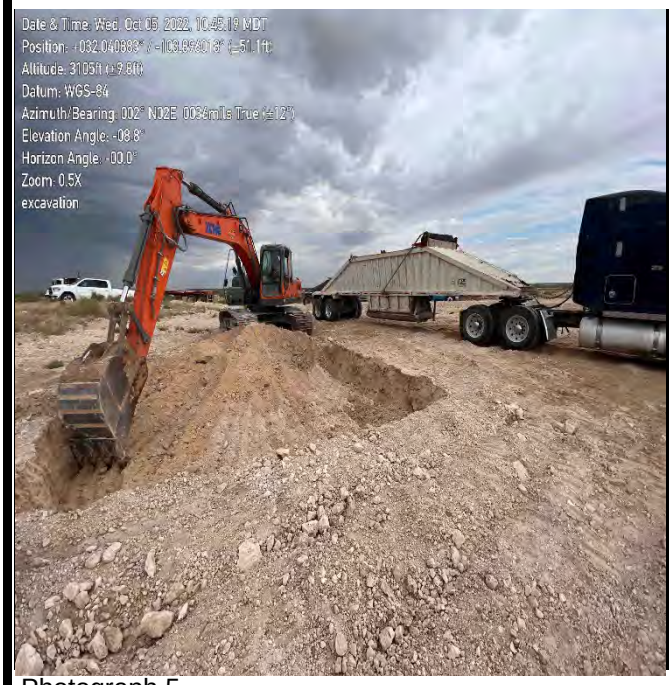
Photograph 2
Date: 08/02/2022
Description: Initial Assessment Activities

Photograph 3
Date: 08/24/2022
Description: Delineation Activities Facing West

Photograph 4
Date: 08/24/2022
Description: Delineation Activities Facing West

ENSOLUM

Photographic Log
WPX Energy Permian, LLC.
RDX 17-21
Incident Number NAB1725454826
Ensolum Job Number: 03A1987049



Photograph 5
Date: 10/05/2022
Description: Excavation Activities Facing South

Photograph 6
Date: 10/06/2022
Description: Excavation Activities Facing South

Photograph 7
Date: 10/24/2022
Description: Excavation Facing South

Photograph 8
Date: 10/24/2022
Description: Excavation Facing South

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: 890-2851-1
Laboratory Sample Delivery Group: Eddy County NM
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
9/7/2022 3:58:17 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: RDX 17-21

Laboratory Job ID: 890-2851-1
SDG: Eddy County NM

Table of Contents

Eurofins Carlsbad
9/7/2022

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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

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: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Job ID: 890-2851-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2851-1

Receipt
The samples were received on 8/25/2022 3:54 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 4.0°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33802 and analytical batch 880-33801 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-33268/2-A) and (LCSD 880-33268/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33268 and analytical batch 880-33307 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: Surrogate recovery for the following samples were outside control limits: (LCS 880-33313/2-A) and (LCSD 880-33313/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-33313 and analytical batch 880-33403 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: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH01

Lab Sample ID: 890-2851-1
Matrix: Solid
Date Collected: 08/24/22 10:05
Date Received: 08/25/22 15:54
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 15:37	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 15:37	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 15:37	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:12	09/06/22 15:37	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 15:37	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:12	09/06/22 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/06/22 09:12*	*09/06/22 15:37*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:12*	*09/06/22 15:37*	*1*

Method: 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			09/06/22 16:58	1

Method: 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			08/31/22 12:34	1

Method: 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 F2	49.9		mg/Kg		08/30/22 09:23	08/31/22 11:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 11:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 11:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*08/30/22 09:23*	*08/31/22 11:09*	*1*
o-Terphenyl	*117*		*70 - 130*	*08/30/22 09:23*	*08/31/22 11:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1130**		49.7		mg/Kg			09/02/22 07:46	10

Client Sample ID: PH02

Lab Sample ID: 890-2851-2
Matrix: Solid
Date Collected: 08/24/22 10:30
Date Received: 08/25/22 15:54
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:08	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:08	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:08	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/06/22 09:12	09/06/22 18:08	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:08	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/06/22 09:12	09/06/22 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:08*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH02

Lab Sample ID: 890-2851-2
Matrix: Solid
Date Collected: 08/24/22 10:30
Date Received: 08/25/22 15:54
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/06/22 16:58	1

Method: 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			08/31/22 12:34	1

Method: 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		08/30/22 09:23	08/31/22 12:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 12:14	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:14*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4700**		49.6		mg/Kg			09/02/22 08:14	10

Client Sample ID: PH03

Lab Sample ID: 890-2851-3
Matrix: Solid
Date Collected: 08/24/22 10:45
Date Received: 08/25/22 15:54
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 18:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 18:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 18:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:12	09/06/22 18:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 18:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:12	09/06/22 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:29*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:29*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/06/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**81.0**		50.0		mg/Kg			08/31/22 12:34	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH03

Date Collected: 08/24/22 10:45
Date Received: 08/25/22 15:54
Sample Depth: 4

Lab Sample ID: 890-2851-3

Matrix: Solid

Method: 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		08/30/22 09:23	08/31/22 12:36	1
Diesel Range Organics (Over C10-C28)	**81.0**		50.0		mg/Kg		08/30/22 09:23	08/31/22 12:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 12:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:36*	*1*
o-Terphenyl	*101*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:36*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1360**		24.8		mg/Kg			09/02/22 08:23	5

Client Sample ID: PH04

Date Collected: 08/24/22 11:25
Date Received: 08/25/22 15:54
Sample Depth: 4

Lab Sample ID: 890-2851-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:49	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:49	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:49	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/06/22 09:12	09/06/22 18:49	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:12	09/06/22 18:49	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/06/22 09:12	09/06/22 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:49*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/06/22 09:12*	*09/06/22 18:49*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/06/22 16:58	1

Method: 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			08/31/22 12:34	1

Method: 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		08/30/22 09:23	08/31/22 12:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 12:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 12:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:57*	*1*
o-Terphenyl	*100*		*70 - 130*	*08/30/22 09:23*	*08/31/22 12:57*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH04

Lab Sample ID: 890-2851-4
Matrix: Solid
Date Collected: 08/24/22 11:25
Date Received: 08/25/22 15:54
Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	342		49.6		mg/Kg			09/02/22 08:32	10

Client Sample ID: PH05

Lab Sample ID: 890-2851-5
Matrix: Solid
Date Collected: 08/24/22 11:40
Date Received: 08/25/22 15:54
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 19:09	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 19:09	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 19:09	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:12	09/06/22 19:09	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:12	09/06/22 19:09	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:12	09/06/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*09/06/22 09:12*	*09/06/22 19:09*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*09/06/22 09:12*	*09/06/22 19:09*	*1*

Method: 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			09/06/22 16:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 19:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 19:09	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*08/29/22 15:45*	*08/30/22 19:09*	*1*
o-Terphenyl	*115*		*70 - 130*	*08/29/22 15:45*	*08/30/22 19:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	513		49.8		mg/Kg			09/02/22 08:42	10

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH06

Date Collected: 08/24/22 11:55
Date Received: 08/25/22 15:54
Sample Depth: 4

Lab Sample ID: 890-2851-6

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:12	09/06/22 19:30	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:12	09/06/22 19:30	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:12	09/06/22 19:30	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/22 09:12	09/06/22 19:30	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:12	09/06/22 19:30	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/22 09:12	09/06/22 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*09/06/22 09:12*	*09/06/22 19:30*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*09/06/22 09:12*	*09/06/22 19:30*	*1*

Method: 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			09/06/22 16:58	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 19:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 19:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 19:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*08/29/22 15:45*	*08/30/22 19:31*	*1*
o-Terphenyl	*119*		*70 - 130*	*08/29/22 15:45*	*08/30/22 19:31*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**238**		5.00		mg/Kg			09/02/22 09:09	1

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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)
890-2840-A-1-E MS	Matrix Spike	82	104
890-2840-A-1-F MSD	Matrix Spike Duplicate	84	106
890-2851-1	PH01	89	108
890-2851-2	PH02	87	108
890-2851-3	PH03	87	108
890-2851-4	PH04	89	107
890-2851-5	PH05	87	113
890-2851-6	PH06	86	105
LCS 880-33802/1-A	Lab Control Sample	84	101
LCSD 880-33802/2-A	Lab Control Sample Dup	84	106
MB 880-33802/5-A	Method Blank	77	119

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)
880-18584-A-41-C MS	Matrix Spike	93	79
880-18584-A-41-D MSD	Matrix Spike Duplicate	97	83
890-2851-1	PH01	121	117
890-2851-1 MS	PH01	95	91
890-2851-1 MSD	PH01	97	81
890-2851-2	PH02	97	96
890-2851-3	PH03	102	101
890-2851-4	PH04	105	100
890-2851-5	PH05	121	115
890-2851-6	PH06	122	119
LCS 880-33268/2-A	Lab Control Sample	167 S1+	158 S1+
LCS 880-33313/2-A	Lab Control Sample	134 S1+	145 S1+
LCSD 880-33268/3-A	Lab Control Sample Dup	163 S1+	155 S1+
LCSD 880-33313/3-A	Lab Control Sample Dup	135 S1+	148 S1+
MB 880-33268/1-A	Method Blank	107	107
MB 880-33313/1-A	Method Blank	119	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33802/5-A
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 12:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 12:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 12:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:12	09/06/22 12:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:12	09/06/22 12:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:12	09/06/22 12:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*77*		*70 - 130*	*09/06/22 09:12*	*09/06/22 12:45*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/06/22 09:12*	*09/06/22 12:45*	*1*

Lab Sample ID: LCS 880-33802/1-A
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33802

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1270		mg/Kg		127	70 - 130		
Toluene			0.100	0.1135		mg/Kg		114	70 - 130		
Ethylbenzene			0.100	0.1105		mg/Kg		110	70 - 130		
m-Xylene & p-Xylene			0.200	0.1982		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1011		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-33802/2-A
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1096		mg/Kg		110	70 - 130	15	35
Toluene			0.100	0.09692		mg/Kg		97	70 - 130	16	35
Ethylbenzene			0.100	0.08666		mg/Kg		87	70 - 130	24	35
m-Xylene & p-Xylene			0.200	0.1554		mg/Kg		78	70 - 130	24	35
o-Xylene			0.100	0.07957		mg/Kg		80	70 - 130	24	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-2840-A-1-E MS
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1289		mg/Kg		128	70 - 130		
Toluene	<0.00201	U	0.101	0.1129		mg/Kg		112	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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

Lab Sample ID: 890-2840-A-1-E MS
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.1051		mg/Kg		104	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.202	0.1871		mg/Kg		93	70 - 130
o-Xylene	<0.00201	U F1	0.101	0.09678		mg/Kg		96	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-2840-A-1-F MSD
Matrix: Solid
Analysis Batch: 33801

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33802

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0994	0.1002		mg/Kg		101	70 - 130	25	35
Toluene	<0.00201	U	0.0994	0.08604		mg/Kg		87	70 - 130	27	35
Ethylbenzene	<0.00201	U	0.0994	0.07455		mg/Kg		75	70 - 130	34	35
m-Xylene & p-Xylene	<0.00402	U F1	0.199	0.1336	F1	mg/Kg		67	70 - 130	33	35
o-Xylene	<0.00201	U F1	0.0994	0.06790	F1	mg/Kg		68	70 - 130	35	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-33268/1-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33268

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		08/29/22 15:45	08/30/22 10:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 10:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 10:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*08/29/22 15:45*	*08/30/22 10:30*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/29/22 15:45*	*08/30/22 10:30*	*1*

Lab Sample ID: LCS 880-33268/2-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33268

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	876.6		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	1000	959.1		mg/Kg		96	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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

Lab Sample ID: LCS 880-33268/2-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33268

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	167	S1+	70 - 130
o-Terphenyl	158	S1+	70 - 130

Lab Sample ID: LCSD 880-33268/3-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33268

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	933.6		mg/Kg		93	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	938.5		mg/Kg		94	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	163	S1+	70 - 130
o-Terphenyl	155	S1+	70 - 130

Lab Sample ID: 880-18584-A-41-C MS
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33268

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	612.3	F1	mg/Kg		59	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	876.6		mg/Kg		84	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	79		70 - 130

Lab Sample ID: 880-18584-A-41-D MSD
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33268

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	631.4	F1	mg/Kg		61	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	928.2		mg/Kg		90	70 - 130	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	83		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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

Lab Sample ID: MB 880-33313/1-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33313

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		08/30/22 09:23	08/31/22 10:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 10:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 10:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*08/30/22 09:23*	*08/31/22 10:04*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/30/22 09:23*	*08/31/22 10:04*	*1*

Lab Sample ID: LCS 880-33313/2-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	874.8		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	903.2		mg/Kg		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*134*	*S1+*	*70 - 130*
o-Terphenyl	*145*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-33313/3-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	863.6		mg/Kg		86	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	1000	932.4		mg/Kg		93	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*135*	*S1+*	*70 - 130*
o-Terphenyl	*148*	*S1+*	*70 - 130*

Lab Sample ID: 890-2851-1 MS
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	999	1040		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1146		mg/Kg		115	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

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

Lab Sample ID: 890-2851-1 MS
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 33313

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-2851-1 MSD
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	835.6	F2	mg/Kg		84	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1020		mg/Kg		102	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	81		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33415/1-A
Matrix: Solid
Analysis Batch: 33544

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			09/02/22 07:18	1

Lab Sample ID: LCS 880-33415/2-A
Matrix: Solid
Analysis Batch: 33544

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-33415/3-A
Matrix: Solid
Analysis Batch: 33544

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	251.8		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-2851-1 MS
Matrix: Solid
Analysis Batch: 33544

Client Sample ID: PH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1130		2490	3818		mg/Kg		108	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2851-1 MSD
Matrix: Solid
Analysis Batch: 33544

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	1130		2490	3726		mg/Kg		105	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

GC VOA

Analysis Batch: 33801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	8021B	33802
890-2851-2	PH02	Total/NA	Solid	8021B	33802
890-2851-3	PH03	Total/NA	Solid	8021B	33802
890-2851-4	PH04	Total/NA	Solid	8021B	33802
890-2851-5	PH05	Total/NA	Solid	8021B	33802
890-2851-6	PH06	Total/NA	Solid	8021B	33802
MB 880-33802/5-A	Method Blank	Total/NA	Solid	8021B	33802
LCS 880-33802/1-A	Lab Control Sample	Total/NA	Solid	8021B	33802
LCSD 880-33802/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33802
890-2840-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	33802
890-2840-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33802

Prep Batch: 33802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	5035	
890-2851-2	PH02	Total/NA	Solid	5035	
890-2851-3	PH03	Total/NA	Solid	5035	
890-2851-4	PH04	Total/NA	Solid	5035	
890-2851-5	PH05	Total/NA	Solid	5035	
890-2851-6	PH06	Total/NA	Solid	5035	
MB 880-33802/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33802/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33802/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2840-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2840-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 33868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	Total BTEX	
890-2851-2	PH02	Total/NA	Solid	Total BTEX	
890-2851-3	PH03	Total/NA	Solid	Total BTEX	
890-2851-4	PH04	Total/NA	Solid	Total BTEX	
890-2851-5	PH05	Total/NA	Solid	Total BTEX	
890-2851-6	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 33268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-5	PH05	Total/NA	Solid	8015NM Prep	
890-2851-6	PH06	Total/NA	Solid	8015NM Prep	
MB 880-33268/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33268/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33268/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-18584-A-41-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-18584-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-5	PH05	Total/NA	Solid	8015B NM	33268
890-2851-6	PH06	Total/NA	Solid	8015B NM	33268

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

GC Semi VOA (Continued)

Analysis Batch: 33307 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-33268/1-A	Method Blank	Total/NA	Solid	8015B NM	33268
LCS 880-33268/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33268
LCSD 880-33268/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33268
880-18584-A-41-C MS	Matrix Spike	Total/NA	Solid	8015B NM	33268
880-18584-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	33268

Prep Batch: 33313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	8015NM Prep	
890-2851-2	PH02	Total/NA	Solid	8015NM Prep	
890-2851-3	PH03	Total/NA	Solid	8015NM Prep	
890-2851-4	PH04	Total/NA	Solid	8015NM Prep	
MB 880-33313/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33313/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33313/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2851-1 MS	PH01	Total/NA	Solid	8015NM Prep	
890-2851-1 MSD	PH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	8015B NM	33313
890-2851-2	PH02	Total/NA	Solid	8015B NM	33313
890-2851-3	PH03	Total/NA	Solid	8015B NM	33313
890-2851-4	PH04	Total/NA	Solid	8015B NM	33313
MB 880-33313/1-A	Method Blank	Total/NA	Solid	8015B NM	33313
LCS 880-33313/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33313
LCSD 880-33313/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33313
890-2851-1 MS	PH01	Total/NA	Solid	8015B NM	33313
890-2851-1 MSD	PH01	Total/NA	Solid	8015B NM	33313

Analysis Batch: 33456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Total/NA	Solid	8015 NM	
890-2851-2	PH02	Total/NA	Solid	8015 NM	
890-2851-3	PH03	Total/NA	Solid	8015 NM	
890-2851-4	PH04	Total/NA	Solid	8015 NM	
890-2851-5	PH05	Total/NA	Solid	8015 NM	
890-2851-6	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 33415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Soluble	Solid	DI Leach	
890-2851-2	PH02	Soluble	Solid	DI Leach	
890-2851-3	PH03	Soluble	Solid	DI Leach	
890-2851-4	PH04	Soluble	Solid	DI Leach	
890-2851-5	PH05	Soluble	Solid	DI Leach	
890-2851-6	PH06	Soluble	Solid	DI Leach	
MB 880-33415/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

HPLC/IC (Continued)

Leach Batch: 33415 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2851-1 MS	PH01	Soluble	Solid	DI Leach	
890-2851-1 MSD	PH01	Soluble	Solid	DI Leach	

Analysis Batch: 33544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2851-1	PH01	Soluble	Solid	300.0	33415
890-2851-2	PH02	Soluble	Solid	300.0	33415
890-2851-3	PH03	Soluble	Solid	300.0	33415
890-2851-4	PH04	Soluble	Solid	300.0	33415
890-2851-5	PH05	Soluble	Solid	300.0	33415
890-2851-6	PH06	Soluble	Solid	300.0	33415
MB 880-33415/1-A	Method Blank	Soluble	Solid	300.0	33415
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	300.0	33415
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33415
890-2851-1 MS	PH01	Soluble	Solid	300.0	33415
890-2851-1 MSD	PH01	Soluble	Solid	300.0	33415

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH01

Date Collected: 08/24/22 10:05
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-1
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	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 15:37	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 11:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33544	09/02/22 07:46	CH	EET MID

Client Sample ID: PH02

Date Collected: 08/24/22 10:30
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-2
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			5.05 g	5 mL	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 18:08	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 12:14	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33544	09/02/22 08:14	CH	EET MID

Client Sample ID: PH03

Date Collected: 08/24/22 10:45
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-3
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			5.00 g	5 mL	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 18:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 12:36	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33544	09/02/22 08:23	CH	EET MID

Client Sample ID: PH04

Date Collected: 08/24/22 11:25
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-4
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			5.04 g	5 mL	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 18:49	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Client Sample ID: PH04

Date Collected: 08/24/22 11:25
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-4
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			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 12:57	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33544	09/02/22 08:32	CH	EET MID

Client Sample ID: PH05

Date Collected: 08/24/22 11:40
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-5
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			4.98 g	5 mL	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 19:09	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 19:09	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33544	09/02/22 08:42	CH	EET MID

Client Sample ID: PH06

Date Collected: 08/24/22 11:55
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2851-6
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	33802	09/06/22 09:12	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33801	09/06/22 19:30	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			33868	09/06/22 16:58	AJ	EET MID
Total/NA	Analysis	8015 NM		1			33456	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 19:31	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 09:09	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: RDX 17-21

Job ID: 890-2851-1
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: RDX 17-21

Job ID: 890-2851-1
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: RDX 17-21

Job ID: 890-2851-1
SDG: Eddy County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2851-1	PH01	Solid	08/24/22 10:05	08/25/22 15:54	4
890-2851-2	PH02	Solid	08/24/22 10:30	08/25/22 15:54	4
890-2851-3	PH03	Solid	08/24/22 10:45	08/25/22 15:54	4
890-2851-4	PH04	Solid	08/24/22 11:25	08/25/22 15:54	4
890-2851-5	PH05	Solid	08/24/22 11:40	08/25/22 15:54	4
890-2851-6	PH06	Solid	08/24/22 11:55	08/25/22 15:54	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:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	Devon
Address:	3122 National Parks Hwy.	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	2817022329	Email:	jhernandez@ensolum.com

Work Order Comments

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

Project Name:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	Due Date:	
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	LC		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TRM-057
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

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)
PH01	S	8/24/22	1005	4'	Grab/	1		x	x	x
PH02	S	8/24/22	1030	4'	Grab/	1		x	x	x
PH03	S	8/24/22	1045	4'	Grab/	1		x	x	x
PH04	S	8/24/22	1125	4'	Grab/	1		x	x	x
PH05	S	8/24/22	1140	4'	Grab/	1		x	x	x
PH06	S	8/24/22	1155	4'	Grab/	1		x	x	x

ANALYSIS REQUEST

890-2851 Chain of Custody

Sample Comments

Incident Number: NAB1725454826
Cost Center: 1061118101

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		8.25.221554	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2851-1
SDG Number: Eddy County NM

Login Number: 2851
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2851-1
SDG Number: Eddy County NM

Login Number: 2851
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/29/22 09:19 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-2853-1
Laboratory Sample Delivery Group: 03A1987049
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
9/8/2022 12:28:18 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: RDX 17-21

Laboratory Job ID: 890-2853-1
SDG: 03A1987049

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Qualifiers

GC VOA

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

HPLC/IC

Qualifier	Qualifier Description
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: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Job ID: 890-2853-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2853-1

Receipt
The samples were received on 8/25/2022 3:54 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 4.0°C

Receipt Exceptions
The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): PH01 (890-2853-1), PH01 (890-2853-2), PH02 (890-2853-3), PH02 (890-2853-4), PH03 (890-2853-5), PH03 (890-2853-6), PH04 (890-2853-7), PH04 (890-2853-8), PH05 (890-2853-9), PH05 (890-2853-10), PH06 (890-2853-11) and PH06 (890-2853-12). The container labels list <SAMPLE_ID>, while the COC lists <SAMPLEID>. The client was contacted, and the lab was instructed to <EXPLANATION_REQUIRED>.
890-2853
sAMPLE #9
COC
PH05 8-24-22 1130 0.5

JAR
PH05 8-24-22 1130

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-33799/2), (LCS 880-33803/1-A) and (LCSD 880-33803/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (890-2852-A-1-C MS) and (890-2852-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (890-2852-A-1-E). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH01 (890-2853-1), PH01 (890-2853-2), PH02 (890-2853-3), PH02 (890-2853-4), PH03 (890-2853-5), PH03 (890-2853-6), PH04 (890-2853-7), PH04 (890-2853-8) and PH05 (890-2853-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-33854 and analytical batch 880-33928 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-33928/2), (LCS 880-33854/1-A) and (LCSD 880-33854/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH05 (890-2853-10), PH06 (890-2853-11), PH06 (890-2853-12), (MB 880-33854/5-A), (890-2853-A-10-C MS) and (890-2853-A-10-D 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: Surrogate recovery for the following samples were outside control limits: (LCS 880-33268/2-A) and (LCSD 880-33268/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33268 and analytical

Case Narrative

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Job ID: 890-2853-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

batch 880-33307 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: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH01

Lab Sample ID: 890-2853-1
Matrix: Solid
Date Collected: 08/24/22 09:45
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 20:32	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 20:32	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 20:32	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 20:32	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/06/22 09:16	09/06/22 20:32	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*180*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 20:32*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*09/06/22 09:16*	*09/06/22 20:32*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 14:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 14:28	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*08/29/22 15:45*	*08/30/22 14:28*	*1*
o-Terphenyl	*104*		*70 - 130*	*08/29/22 15:45*	*08/30/22 14:28*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**496**		4.97		mg/Kg			09/02/22 14:58	1

Client Sample ID: PH01

Lab Sample ID: 890-2853-2
Matrix: Solid
Date Collected: 08/24/22 09:55
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 20:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 20:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 20:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 20:58	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 20:58	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 20:58*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH01

Date Collected: 08/24/22 09:55
Date Received: 08/25/22 15:54
Sample Depth: 2

Lab Sample ID: 890-2853-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/06/22 09:16*	*09/06/22 20:58*	*1*

Method: 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			09/07/22 17:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 14:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 14:49	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*08/29/22 15:45*	*08/30/22 14:49*	*1*
o-Terphenyl	*107*		*70 - 130*	*08/29/22 15:45*	*08/30/22 14:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**175**		24.8		mg/Kg			09/02/22 15:07	5

Client Sample ID: PH02

Date Collected: 08/24/22 10:10
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Lab Sample ID: 890-2853-3

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 21:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 21:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 21:23	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/06/22 09:16	09/06/22 21:23	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/06/22 09:16	09/06/22 21:23	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/06/22 09:16	09/06/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*183*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 21:23*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/06/22 09:16*	*09/06/22 21:23*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH02
Date Collected: 08/24/22 10:10
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Lab Sample ID: 890-2853-3
Matrix: Solid

Method: 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		08/29/22 15:45	08/30/22 15:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 15:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 15:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/29/22 15:45*	*08/30/22 15:11*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/29/22 15:45*	*08/30/22 15:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3360**		24.9		mg/Kg			09/02/22 15:17	5

Client Sample ID: PH02
Date Collected: 08/24/22 10:20
Date Received: 08/25/22 15:54
Sample Depth: 2

Lab Sample ID: 890-2853-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 21:49	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 21:49	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 21:49	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 21:49	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/06/22 09:16	09/06/22 21:49	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*181*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 21:49*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*09/06/22 09:16*	*09/06/22 21:49*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 15:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 15:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/29/22 15:45*	*08/30/22 15:32*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/29/22 15:45*	*08/30/22 15:32*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH02

Lab Sample ID: 890-2853-4
Matrix: Solid
Date Collected: 08/24/22 10:20
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2250		25.2		mg/Kg			09/02/22 15:26	5

Client Sample ID: PH03

Lab Sample ID: 890-2853-5
Matrix: Solid
Date Collected: 08/24/22 10:35
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 22:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 22:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 22:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 22:14	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 09:16	09/06/22 22:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*168*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 22:14*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/06/22 09:16*	*09/06/22 22:14*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 16:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 16:15	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:15*	*1*
o-Terphenyl	*95*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200		49.6		mg/Kg			09/01/22 16:31	10

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH03

Lab Sample ID: 890-2853-6
Matrix: Solid
Date Collected: 08/24/22 10:40
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 22:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 22:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 22:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		09/06/22 09:16	09/06/22 22:40	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 22:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		09/06/22 09:16	09/06/22 22:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*189*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 22:40*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*09/06/22 09:16*	*09/06/22 22:40*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 16:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 16:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:37*	*1*
o-Terphenyl	*96*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1100**		49.5		mg/Kg			09/01/22 16:38	10

Client Sample ID: PH04

Lab Sample ID: 890-2853-7
Matrix: Solid
Date Collected: 08/24/22 11:15
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 23:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 23:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 23:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 23:06	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 23:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 23:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*178*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 23:06*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH04

Date Collected: 08/24/22 11:15
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Lab Sample ID: 890-2853-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/06/22 09:16*	*09/06/22 23:06*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/07/22 17:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 16:59	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 16:59	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/29/22 15:45	08/30/22 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:59*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/29/22 15:45*	*08/30/22 16:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**208**		4.98		mg/Kg			09/01/22 16:45	1

Client Sample ID: PH04

Date Collected: 08/24/22 11:20
Date Received: 08/25/22 15:54
Sample Depth: 2

Lab Sample ID: 890-2853-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 23:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 23:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 23:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 23:31	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 09:16	09/06/22 23:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*176*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 23:31*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/06/22 09:16*	*09/06/22 23:31*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH04

Lab Sample ID: 890-2853-8
Matrix: Solid
Date Collected: 08/24/22 11:20
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 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		08/29/22 15:45	08/30/22 17:21	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 17:21	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 17:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*08/29/22 15:45*	*08/30/22 17:21*	*1*
o-Terphenyl	*105*		*70 - 130*	*08/29/22 15:45*	*08/30/22 17:21*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60.8**		5.03		mg/Kg			09/01/22 17:07	1

Client Sample ID: PH05

Lab Sample ID: 890-2853-9
Matrix: Solid
Date Collected: 08/24/22 11:30
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 23:57	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 23:57	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 23:57	1
m-Xylene & p-Xylene	<0.00397	U	0.00397		mg/Kg		09/06/22 09:16	09/06/22 23:57	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/06/22 09:16	09/06/22 23:57	1
Xylenes, Total	<0.00397	U	0.00397		mg/Kg		09/06/22 09:16	09/06/22 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*190*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 23:57*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:16*	*09/06/22 23:57*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397		mg/Kg			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 17:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 17:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*08/29/22 15:45*	*08/30/22 17:42*	*1*
o-Terphenyl	*121*		*70 - 130*	*08/29/22 15:45*	*08/30/22 17:42*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH05

Lab Sample ID: 890-2853-9
Matrix: Solid
Date Collected: 08/24/22 11:30
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1590		25.1		mg/Kg			09/01/22 17:14	5

Client Sample ID: PH05

Lab Sample ID: 890-2853-10
Matrix: Solid
Date Collected: 08/24/22 11:35
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:04	1
Toluene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:04	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:04	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		09/06/22 13:45	09/07/22 15:04	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:04	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		09/06/22 13:45	09/07/22 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*209*	*S1+*	*70 - 130*	*09/06/22 13:45*	*09/07/22 15:04*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*09/06/22 13:45*	*09/07/22 15:04*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 18:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 18:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:04*	*1*
o-Terphenyl	*95*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:04*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	762		5.01		mg/Kg			09/01/22 17:21	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH06

Lab Sample ID: 890-2853-11
Matrix: Solid
Date Collected: 08/24/22 11:45
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 13:45	09/07/22 15:29	1
Toluene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 13:45	09/07/22 15:29	1
Ethylbenzene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 13:45	09/07/22 15:29	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401		mg/Kg		09/06/22 13:45	09/07/22 15:29	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 13:45	09/07/22 15:29	1
Xylenes, Total	<0.00401	U *+	0.00401		mg/Kg		09/06/22 13:45	09/07/22 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*09/06/22 13:45*	*09/07/22 15:29*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 13:45*	*09/07/22 15:29*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 18:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 18:26	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 18:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:26*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**226**		4.98		mg/Kg			09/01/22 17:28	1

Client Sample ID: PH06

Lab Sample ID: 890-2853-12
Matrix: Solid
Date Collected: 08/24/22 11:50
Date Received: 08/25/22 15:54
Sample Depth: 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:55	1
Toluene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:55	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:55	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		09/06/22 13:45	09/07/22 15:55	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 13:45	09/07/22 15:55	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		09/06/22 13:45	09/07/22 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*174*	*S1+*	*70 - 130*	*09/06/22 13:45*	*09/07/22 15:55*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH06

Date Collected: 08/24/22 11:50
Date Received: 08/25/22 15:54
Sample Depth: 2

Lab Sample ID: 890-2853-12

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/06/22 13:45*	*09/07/22 15:55*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			08/31/22 12:34	1

Method: 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		08/29/22 15:45	08/30/22 18:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 18:47	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/29/22 15:45	08/30/22 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:47*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/29/22 15:45*	*08/30/22 18:47*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**115**		4.99		mg/Kg			09/01/22 17:35	1

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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)
890-2852-A-1-C MS	Matrix Spike	170 S1+	109
890-2852-A-1-D MSD	Matrix Spike Duplicate	179 S1+	108
890-2853-1	PH01	180 S1+	110
890-2853-2	PH01	177 S1+	107
890-2853-3	PH02	183 S1+	111
890-2853-4	PH02	181 S1+	110
890-2853-5	PH03	168 S1+	97
890-2853-6	PH03	189 S1+	110
890-2853-7	PH04	178 S1+	100
890-2853-8	PH04	176 S1+	109
890-2853-9	PH05	190 S1+	108
890-2853-10	PH05	209 S1+	80
890-2853-10 MS	PH05	178 S1+	101
890-2853-10 MSD	PH05	182 S1+	97
890-2853-11	PH06	139 S1+	108
890-2853-12	PH06	174 S1+	119
LCS 880-33803/1-A	Lab Control Sample	160 S1+	107
LCS 880-33854/1-A	Lab Control Sample	184 S1+	113
LCSD 880-33803/2-A	Lab Control Sample Dup	160 S1+	106
LCSD 880-33854/2-A	Lab Control Sample Dup	198 S1+	109
MB 880-33803/5-A	Method Blank	120	71
MB 880-33854/5-A	Method Blank	139 S1+	74

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)
880-18584-A-41-C MS	Matrix Spike	93	79
880-18584-A-41-D MSD	Matrix Spike Duplicate	97	83
890-2853-1	PH01	106	104
890-2853-2	PH01	110	107
890-2853-3	PH02	100	97
890-2853-4	PH02	102	99
890-2853-5	PH03	97	95
890-2853-6	PH03	99	96
890-2853-7	PH04	96	94
890-2853-8	PH04	111	105
890-2853-9	PH05	126	121
890-2853-10	PH05	97	95
890-2853-11	PH06	103	98
890-2853-12	PH06	117	112
LCS 880-33268/2-A	Lab Control Sample	167 S1+	158 S1+
LCSD 880-33268/3-A	Lab Control Sample Dup	163 S1+	155 S1+
MB 880-33268/1-A	Method Blank	107	107

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33803/5-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33803

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 14:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*09/06/22 09:16*	*09/06/22 14:07*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*09/06/22 09:16*	*09/06/22 14:07*	*1*

Lab Sample ID: LCS 880-33803/1-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1197		mg/Kg		120	70 - 130		
Toluene			0.100	0.1219		mg/Kg		122	70 - 130		
Ethylbenzene			0.100	0.1218		mg/Kg		122	70 - 130		
m-Xylene & p-Xylene			0.200	0.2454		mg/Kg		123	70 - 130		
o-Xylene			0.100	0.1364	*+	mg/Kg		136	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-33803/2-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1196		mg/Kg		120	70 - 130	0	35
Toluene			0.100	0.1233		mg/Kg		123	70 - 130	1	35
Ethylbenzene			0.100	0.1187		mg/Kg		119	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2376		mg/Kg		119	70 - 130	3	35
o-Xylene			0.100	0.1333	*+	mg/Kg		133	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-2852-A-1-C MS
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1228		mg/Kg		122	70 - 130		
Toluene	<0.00202	U F1	0.101	0.1236		mg/Kg		122	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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

Lab Sample ID: 890-2852-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33799 — **Prep Batch: 33803**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1172		mg/Kg		116	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2338		mg/Kg		116	70 - 130
o-Xylene	<0.00202	U *+ F1	0.101	0.1293		mg/Kg		128	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-2852-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33799 — **Prep Batch: 33803**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1293		mg/Kg		130	70 - 130	5	35
Toluene	<0.00202	U F1	0.0994	0.1318	F1	mg/Kg		133	70 - 130	6	35
Ethylbenzene	<0.00202	U	0.0994	0.1250		mg/Kg		126	70 - 130	6	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.2508		mg/Kg		126	70 - 130	7	35
o-Xylene	<0.00202	U *+ F1	0.0994	0.1402	F1	mg/Kg		141	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: MB 880-33854/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33928 — **Prep Batch: 33854**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 13:45	09/07/22 14:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 13:45	09/07/22 14:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 13:45	09/07/22 14:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 13:45	09/07/22 14:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/22 13:45	09/07/22 14:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 13:45	09/07/22 14:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*09/06/22 13:45*	*09/07/22 14:38*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*09/06/22 13:45*	*09/07/22 14:38*	*1*

Lab Sample ID: LCS 880-33854/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33928 — **Prep Batch: 33854**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1510	*+	mg/Kg		151	70 - 130
Toluene	0.100	0.1532	*+	mg/Kg		153	70 - 130
Ethylbenzene	0.100	0.1506	*+	mg/Kg		151	70 - 130
m-Xylene & p-Xylene	0.200	0.3014	*+	mg/Kg		151	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-33854/1-A
Matrix: Solid
Analysis Batch: 33928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33854

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1648	*+	mg/Kg		165	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*184*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: LCSD 880-33854/2-A
Matrix: Solid
Analysis Batch: 33928

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33854

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1415	*+	mg/Kg		142	70 - 130	6	35
Toluene			0.100	0.1474	*+	mg/Kg		147	70 - 130	4	35
Ethylbenzene			0.100	0.1424	*+	mg/Kg		142	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2873	*+	mg/Kg		144	70 - 130	5	35
o-Xylene			0.100	0.1597	*+	mg/Kg		160	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*198*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-2853-10 MS
Matrix: Solid
Analysis Batch: 33928

Client Sample ID: PH05
Prep Type: Total/NA
Prep Batch: 33854

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U *+	0.101	0.1197		mg/Kg		119	70 - 130		
Toluene	<0.00199	U *+	0.101	0.1230		mg/Kg		122	70 - 130		
Ethylbenzene	<0.00199	U *+	0.101	0.1128		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene	<0.00398	U *+	0.202	0.2246		mg/Kg		111	70 - 130		
o-Xylene	<0.00199	U *+	0.101	0.1257		mg/Kg		124	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*178*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-2853-10 MSD
Matrix: Solid
Analysis Batch: 33928

Client Sample ID: PH05
Prep Type: Total/NA
Prep Batch: 33854

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U *+	0.0994	0.1197		mg/Kg		120	70 - 130	0	35
Toluene	<0.00199	U *+	0.0994	0.1260		mg/Kg		127	70 - 130	2	35
Ethylbenzene	<0.00199	U *+	0.0994	0.1169		mg/Kg		118	70 - 130	4	35
m-Xylene & p-Xylene	<0.00398	U *+	0.199	0.2308		mg/Kg		116	70 - 130	3	35
o-Xylene	<0.00199	U *+	0.0994	0.1291		mg/Kg		130	70 - 130	3	35

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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

Lab Sample ID: 890-2853-10 MSD
Matrix: Solid
Analysis Batch: 33928

Client Sample ID: PH05
Prep Type: Total/NA
Prep Batch: 33854

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	182	S1+	70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

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

Lab Sample ID: MB 880-33268/1-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33268

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		08/29/22 15:45	08/30/22 10:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 10:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/29/22 15:45	08/30/22 10:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130	08/29/22 15:45	08/30/22 10:30	1
o-Terphenyl	107		70 - 130	08/29/22 15:45	08/30/22 10:30	1

Lab Sample ID: LCS 880-33268/2-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33268

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	876.6		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	959.1		mg/Kg		96	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	167	S1+	70 - 130
o-Terphenyl	158	S1+	70 - 130

Lab Sample ID: LCSD 880-33268/3-A
Matrix: Solid
Analysis Batch: 33307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33268

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	933.6		mg/Kg		93	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	938.5		mg/Kg		94	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	163	S1+	70 - 130
o-Terphenyl	155	S1+	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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

Lab Sample ID: 880-18584-A-41-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33307 — **Prep Batch: 33268**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	999	612.3	F1	mg/Kg		59	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	876.6		mg/Kg		84	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: 880-18584-A-41-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 33307 — **Prep Batch: 33268**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1	998	631.4	F1	mg/Kg		61	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	928.2		mg/Kg		90	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33417/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/01/22 15:14	1

Lab Sample ID: LCS 880-33417/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	248.0		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-33417/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	245.3		mg/Kg		98	90 - 110	1	20

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-18577-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	309		1260	1595		mg/Kg		102	90 - 110

Lab Sample ID: 880-18577-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	309		1260	1591		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-18754-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	413		250	643.0		mg/Kg		92	90 - 110

Lab Sample ID: 880-18754-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33543

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	413		250	643.1		mg/Kg		92	90 - 110	0	20

Lab Sample ID: MB 880-33415/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/02/22 07:18	1

Lab Sample ID: LCS 880-33415/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	251.7		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-33415/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33544

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	251.8		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-2852-A-5-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 33544

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	84.9		253	360.8		mg/Kg		109	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-2852-A-5-D MSD
Matrix: Solid
Analysis Batch: 33544

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	84.9		253	359.7		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

GC VOA

Analysis Batch: 33799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	8021B	33803
890-2853-2	PH01	Total/NA	Solid	8021B	33803
890-2853-3	PH02	Total/NA	Solid	8021B	33803
890-2853-4	PH02	Total/NA	Solid	8021B	33803
890-2853-5	PH03	Total/NA	Solid	8021B	33803
890-2853-6	PH03	Total/NA	Solid	8021B	33803
890-2853-7	PH04	Total/NA	Solid	8021B	33803
890-2853-8	PH04	Total/NA	Solid	8021B	33803
890-2853-9	PH05	Total/NA	Solid	8021B	33803
MB 880-33803/5-A	Method Blank	Total/NA	Solid	8021B	33803
LCS 880-33803/1-A	Lab Control Sample	Total/NA	Solid	8021B	33803
LCSD 880-33803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33803
890-2852-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	33803
890-2852-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33803

Prep Batch: 33803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	5035	
890-2853-2	PH01	Total/NA	Solid	5035	
890-2853-3	PH02	Total/NA	Solid	5035	
890-2853-4	PH02	Total/NA	Solid	5035	
890-2853-5	PH03	Total/NA	Solid	5035	
890-2853-6	PH03	Total/NA	Solid	5035	
890-2853-7	PH04	Total/NA	Solid	5035	
890-2853-8	PH04	Total/NA	Solid	5035	
890-2853-9	PH05	Total/NA	Solid	5035	
MB 880-33803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2852-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-2852-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 33854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-10	PH05	Total/NA	Solid	5035	
890-2853-11	PH06	Total/NA	Solid	5035	
890-2853-12	PH06	Total/NA	Solid	5035	
MB 880-33854/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33854/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33854/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2853-10 MS	PH05	Total/NA	Solid	5035	
890-2853-10 MSD	PH05	Total/NA	Solid	5035	

Analysis Batch: 33928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-10	PH05	Total/NA	Solid	8021B	33854
890-2853-11	PH06	Total/NA	Solid	8021B	33854
890-2853-12	PH06	Total/NA	Solid	8021B	33854
MB 880-33854/5-A	Method Blank	Total/NA	Solid	8021B	33854
LCS 880-33854/1-A	Lab Control Sample	Total/NA	Solid	8021B	33854
LCSD 880-33854/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33854

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

GC VOA (Continued)

Analysis Batch: 33928 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-10 MS	PH05	Total/NA	Solid	8021B	33854
890-2853-10 MSD	PH05	Total/NA	Solid	8021B	33854

Analysis Batch: 33957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	Total BTEX	
890-2853-2	PH01	Total/NA	Solid	Total BTEX	
890-2853-3	PH02	Total/NA	Solid	Total BTEX	
890-2853-4	PH02	Total/NA	Solid	Total BTEX	
890-2853-5	PH03	Total/NA	Solid	Total BTEX	
890-2853-6	PH03	Total/NA	Solid	Total BTEX	
890-2853-7	PH04	Total/NA	Solid	Total BTEX	
890-2853-8	PH04	Total/NA	Solid	Total BTEX	
890-2853-9	PH05	Total/NA	Solid	Total BTEX	
890-2853-10	PH05	Total/NA	Solid	Total BTEX	
890-2853-11	PH06	Total/NA	Solid	Total BTEX	
890-2853-12	PH06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 33268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	8015NM Prep	
890-2853-2	PH01	Total/NA	Solid	8015NM Prep	
890-2853-3	PH02	Total/NA	Solid	8015NM Prep	
890-2853-4	PH02	Total/NA	Solid	8015NM Prep	
890-2853-5	PH03	Total/NA	Solid	8015NM Prep	
890-2853-6	PH03	Total/NA	Solid	8015NM Prep	
890-2853-7	PH04	Total/NA	Solid	8015NM Prep	
890-2853-8	PH04	Total/NA	Solid	8015NM Prep	
890-2853-9	PH05	Total/NA	Solid	8015NM Prep	
890-2853-10	PH05	Total/NA	Solid	8015NM Prep	
890-2853-11	PH06	Total/NA	Solid	8015NM Prep	
890-2853-12	PH06	Total/NA	Solid	8015NM Prep	
MB 880-33268/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33268/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33268/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-18584-A-41-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-18584-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	8015B NM	33268
890-2853-2	PH01	Total/NA	Solid	8015B NM	33268
890-2853-3	PH02	Total/NA	Solid	8015B NM	33268
890-2853-4	PH02	Total/NA	Solid	8015B NM	33268
890-2853-5	PH03	Total/NA	Solid	8015B NM	33268
890-2853-6	PH03	Total/NA	Solid	8015B NM	33268
890-2853-7	PH04	Total/NA	Solid	8015B NM	33268
890-2853-8	PH04	Total/NA	Solid	8015B NM	33268
890-2853-9	PH05	Total/NA	Solid	8015B NM	33268

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

GC Semi VOA (Continued)

Analysis Batch: 33307 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-10	PH05	Total/NA	Solid	8015B NM	33268
890-2853-11	PH06	Total/NA	Solid	8015B NM	33268
890-2853-12	PH06	Total/NA	Solid	8015B NM	33268
MB 880-33268/1-A	Method Blank	Total/NA	Solid	8015B NM	33268
LCS 880-33268/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33268
LCSD 880-33268/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33268
880-18584-A-41-C MS	Matrix Spike	Total/NA	Solid	8015B NM	33268
880-18584-A-41-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	33268

Analysis Batch: 33455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Total/NA	Solid	8015 NM	
890-2853-2	PH01	Total/NA	Solid	8015 NM	
890-2853-3	PH02	Total/NA	Solid	8015 NM	
890-2853-4	PH02	Total/NA	Solid	8015 NM	
890-2853-5	PH03	Total/NA	Solid	8015 NM	
890-2853-6	PH03	Total/NA	Solid	8015 NM	
890-2853-7	PH04	Total/NA	Solid	8015 NM	
890-2853-8	PH04	Total/NA	Solid	8015 NM	
890-2853-9	PH05	Total/NA	Solid	8015 NM	
890-2853-10	PH05	Total/NA	Solid	8015 NM	
890-2853-11	PH06	Total/NA	Solid	8015 NM	
890-2853-12	PH06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 33415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Soluble	Solid	DI Leach	
890-2853-2	PH01	Soluble	Solid	DI Leach	
890-2853-3	PH02	Soluble	Solid	DI Leach	
890-2853-4	PH02	Soluble	Solid	DI Leach	
MB 880-33415/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2852-A-5-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2852-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 33417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-5	PH03	Soluble	Solid	DI Leach	
890-2853-6	PH03	Soluble	Solid	DI Leach	
890-2853-7	PH04	Soluble	Solid	DI Leach	
890-2853-8	PH04	Soluble	Solid	DI Leach	
890-2853-9	PH05	Soluble	Solid	DI Leach	
890-2853-10	PH05	Soluble	Solid	DI Leach	
890-2853-11	PH06	Soluble	Solid	DI Leach	
890-2853-12	PH06	Soluble	Solid	DI Leach	
MB 880-33417/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33417/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33417/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

HPLC/IC (Continued)

Leach Batch: 33417 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-18577-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18577-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
880-18754-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-18754-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 33543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-5	PH03	Soluble	Solid	300.0	33417
890-2853-6	PH03	Soluble	Solid	300.0	33417
890-2853-7	PH04	Soluble	Solid	300.0	33417
890-2853-8	PH04	Soluble	Solid	300.0	33417
890-2853-9	PH05	Soluble	Solid	300.0	33417
890-2853-10	PH05	Soluble	Solid	300.0	33417
890-2853-11	PH06	Soluble	Solid	300.0	33417
890-2853-12	PH06	Soluble	Solid	300.0	33417
MB 880-33417/1-A	Method Blank	Soluble	Solid	300.0	33417
LCS 880-33417/2-A	Lab Control Sample	Soluble	Solid	300.0	33417
LCSD 880-33417/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33417
880-18577-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	33417
880-18577-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	33417
880-18754-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	33417
880-18754-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	33417

Analysis Batch: 33544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2853-1	PH01	Soluble	Solid	300.0	33415
890-2853-2	PH01	Soluble	Solid	300.0	33415
890-2853-3	PH02	Soluble	Solid	300.0	33415
890-2853-4	PH02	Soluble	Solid	300.0	33415
MB 880-33415/1-A	Method Blank	Soluble	Solid	300.0	33415
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	300.0	33415
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33415
890-2852-A-5-C MS	Matrix Spike	Soluble	Solid	300.0	33415
890-2852-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	33415

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH01
Date Collected: 08/24/22 09:45
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-1
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	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 20:32	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 14:28	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 14:58	CH	EET MID

Client Sample ID: PH01
Date Collected: 08/24/22 09:55
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-2
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			5.01 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 20:58	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 14:49	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33544	09/02/22 15:07	CH	EET MID

Client Sample ID: PH02
Date Collected: 08/24/22 10:10
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-3
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			5.05 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 21:23	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 15:11	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33544	09/02/22 15:17	CH	EET MID

Client Sample ID: PH02
Date Collected: 08/24/22 10:20
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 21:49	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH02
Date Collected: 08/24/22 10:20
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-4
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			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 15:32	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33544	09/02/22 15:26	CH	EET MID

Client Sample ID: PH03
Date Collected: 08/24/22 10:35
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 22:14	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 16:15	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33543	09/01/22 16:31	CH	EET MID

Client Sample ID: PH03
Date Collected: 08/24/22 10:40
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 22:40	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 16:37	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	33543	09/01/22 16:38	CH	EET MID

Client Sample ID: PH04
Date Collected: 08/24/22 11:15
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-7
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			5.00 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 23:06	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 16:59	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH04
Date Collected: 08/24/22 11:15
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-7
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			5.02 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33543	09/01/22 16:45	CH	EET MID

Client Sample ID: PH04
Date Collected: 08/24/22 11:20
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-8
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			5.03 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 23:31	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 17:21	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33543	09/01/22 17:07	CH	EET MID

Client Sample ID: PH05
Date Collected: 08/24/22 11:30
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-9
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			5.04 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 23:57	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 17:42	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	33543	09/01/22 17:14	CH	EET MID

Client Sample ID: PH05
Date Collected: 08/24/22 11:35
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-10
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	33854	09/06/22 13:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33928	09/07/22 15:04	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 18:04	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33543	09/01/22 17:21	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Client Sample ID: PH06

Date Collected: 08/24/22 11:45
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-11

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	33854	09/06/22 13:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33928	09/07/22 15:29	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 18:26	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33543	09/01/22 17:28	CH	EET MID

Client Sample ID: PH06

Date Collected: 08/24/22 11:50
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2853-12

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	33854	09/06/22 13:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33928	09/07/22 15:55	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33957	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33455	08/31/22 12:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33268	08/29/22 15:45	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33307	08/30/22 18:47	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33417	08/31/22 09:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33543	09/01/22 17:35	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: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-2853-1
SDG: 03A1987049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2853-1	PH01	Solid	08/24/22 09:45	08/25/22 15:54	0.5
890-2853-2	PH01	Solid	08/24/22 09:55	08/25/22 15:54	2
890-2853-3	PH02	Solid	08/24/22 10:10	08/25/22 15:54	0.5
890-2853-4	PH02	Solid	08/24/22 10:20	08/25/22 15:54	2
890-2853-5	PH03	Solid	08/24/22 10:35	08/25/22 15:54	0.5
890-2853-6	PH03	Solid	08/24/22 10:40	08/25/22 15:54	2
890-2853-7	PH04	Solid	08/24/22 11:15	08/25/22 15:54	0.5
890-2853-8	PH04	Solid	08/24/22 11:20	08/25/22 15:54	2
890-2853-9	PH05	Solid	08/24/22 11:30	08/25/22 15:54	0.5
890-2853-10	PH05	Solid	08/24/22 11:35	08/25/22 15:54	2
890-2853-11	PH06	Solid	08/24/22 11:45	08/25/22 15:54	0.5
890-2853-12	PH06	Solid	08/24/22 11:50	08/25/22 15:54	2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	Devon
Address:	3122 National Parks Hwy.	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	2817022329	Email:	jhernandez@ensolum.com

Work Order Comments

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

Project Name:	RDX 17-21	Turn Around	
Project Number:	03A1987049	☑ Routine ☐ Rush	
Project Location:	Eddy County, NM	Due Date:	
Sampler's Name:	LC	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.2	
Total Containers:		Corrected Temperature:	4.0	

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
PH01	S	8/24/22	945	0.5'	Grab/	1		x	x	x
PH01	S	8/24/22	955	2'	Grab/	1		x	x	x
PH02	S	8/24/22	1010	0.5'	Grab/	1		x	x	x
PH02	S	8/24/22	1020	2'	Grab/	1		x	x	x
PH03	S	8/24/22	1035	0.5'	Grab/	1		x	x	x
PH03	S	8/24/22	1040	2'	Grab/	1		x	x	x
PH04	S	8/24/22	1115	0.5'	Grab/	1		x	x	x
PH04	S	8/24/22	1120	2'	Grab/	1		x	x	x
PH05	S	8/24/22	1130	0.5'	Grab/	1		x	x	x
PH05	S	8/24/22	1135	2'	Grab/	1		x	x	x

890-2853 Chain of Custody

Preservative Codes

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

Sample Comments

Incident Number: NAB1725454826
Cost Center: 1061118101

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

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

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

Revised Date: 08/25/2020 Rev. 2020.2

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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:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	Devon
Address:	3122 National Parks Hwy.	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	2817022329	Email:	jhernandez@ensolum.com

Work Order Comments

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

Project Name:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	Due Date:	
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	LC		
PO #:			

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
PH06	S	8/24/22	1145	0.5'	Grab/	1	x	x	x
PH06	S	8/24/22	1150	2'	Grab/	1	x	x	x

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 Number: NAB1725454826
Cost Center: 1061118101

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		8.25.22 1554			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2853-1
SDG Number: 03A1987049

Login Number: 2853
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2853-1
SDG Number: 03A1987049

Login Number: 2853
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/29/22 09:19 AM

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-3272-1
Laboratory Sample Delivery Group: 03A1987049
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
10/28/2022 10:58:23 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: RDX 17-21

Laboratory Job ID: 890-3272-1
SDG: 03A1987049

Table of Contents

Eurofins Carlsbad
10/28/2022

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Job ID: 890-3272-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3272-1

Receipt
The sample was received on 10/24/2022 12:16 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: SW08 (890-3272-1).

GC VOA
Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-38025 and analytical batch 880-38039 was outside the upper control limits.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-38025 and analytical batch 880-38039 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 laboratory control sample (LCS) associated with preparation batch 880-37877 and analytical batch 880-37857 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCSD 880-37877/3-A) and (MB 880-37877/1-A). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Client Sample ID: SW08

Date Collected: 10/24/22 10:00
Date Received: 10/24/22 12:16
Sample Depth: 0 - 4

Lab Sample ID: 890-3272-1

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		10/27/22 14:45	10/28/22 00:05	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/27/22 14:45	10/28/22 00:05	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/27/22 14:45	10/28/22 00:05	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/27/22 14:45	10/28/22 00:05	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/27/22 14:45	10/28/22 00:05	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/27/22 14:45	10/28/22 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*10/27/22 14:45*	*10/28/22 00:05*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/27/22 14:45*	*10/28/22 00:05*	*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			10/28/22 11:07	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			10/27/22 09:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+ *1	49.9		mg/Kg		10/26/22 11:21	10/27/22 01:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/26/22 11:21	10/27/22 01:46	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/26/22 11:21	10/27/22 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*10/26/22 11:21*	*10/27/22 01:46*	*1*
o-Terphenyl	*125*		*70 - 130*	*10/26/22 11:21*	*10/27/22 01:46*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87.0**		4.99		mg/Kg			10/27/22 13:12	1

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3252-A-44-H MS	Matrix Spike	71	93
890-3252-A-44-I MSD	Matrix Spike Duplicate	95	92
890-3272-1	SW08	84	100
LCS 880-38025/1-A	Lab Control Sample	100	104
LCSD 880-38025/2-A	Lab Control Sample Dup	94	99
MB 880-38025/5-A	Method Blank	66 S1-	96

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3272-1	SW08	108	125
890-3276-A-21-B MS	Matrix Spike	82	84
890-3276-A-21-C MSD	Matrix Spike Duplicate	98	97
LCS 880-37877/2-A	Lab Control Sample	97	118
LCSD 880-37877/3-A	Lab Control Sample Dup	117	137 S1+
MB 880-37877/1-A	Method Blank	121	146 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-38025/5-A
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38025

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/27/22 14:45	10/27/22 19:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/27/22 14:45	10/27/22 19:44	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/27/22 14:45	10/27/22 19:44	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/27/22 14:45	10/27/22 19:44	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/27/22 14:45	10/27/22 19:44	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/27/22 14:45	10/27/22 19:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*10/27/22 14:45*	*10/27/22 19:44*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*10/27/22 14:45*	*10/27/22 19:44*	*1*

Lab Sample ID: LCS 880-38025/1-A
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38025

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08366		mg/Kg		84	70 - 130		
Toluene			0.100	0.07975		mg/Kg		80	70 - 130		
Ethylbenzene			0.100	0.08205		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1658		mg/Kg		83	70 - 130		
o-Xylene			0.100	0.08242		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-38025/2-A
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 38025

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08174		mg/Kg		82	70 - 130	2	35
Toluene			0.100	0.07845		mg/Kg		78	70 - 130	2	35
Ethylbenzene			0.100	0.07823		mg/Kg		78	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1583		mg/Kg		79	70 - 130	5	35
o-Xylene			0.100	0.07805		mg/Kg		78	70 - 130	5	35

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

Lab Sample ID: 890-3252-A-44-H MS
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.0998	0.04703	F1	mg/Kg		47	70 - 130		
Toluene	<0.00200	U F1 F2	0.0998	0.04044	F1	mg/Kg		41	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

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

Lab Sample ID: 890-3252-A-44-H MS
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1 F2	0.0998	0.04029	F1	mg/Kg		40	70 - 130
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.200	0.07925	F1	mg/Kg		40	70 - 130
o-Xylene	<0.00200	U F1 F2	0.0998	0.04315	F1	mg/Kg		43	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-3252-A-44-I MSD
Matrix: Solid
Analysis Batch: 38039

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 38025

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0996	0.07226	F2	mg/Kg		73	70 - 130	42	35
Toluene	<0.00200	U F1 F2	0.0996	0.06967	F2	mg/Kg		70	70 - 130	53	35
Ethylbenzene	<0.00200	U F1 F2	0.0996	0.06947	F2	mg/Kg		70	70 - 130	53	35
m-Xylene & p-Xylene	<0.00401	U F1 F2	0.199	0.1400	F2	mg/Kg		70	70 - 130	55	35
o-Xylene	<0.00200	U F1 F2	0.0996	0.06893	F1 F2	mg/Kg		69	70 - 130	46	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*

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

Lab Sample ID: MB 880-37877/1-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37877

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		10/26/22 11:21	10/26/22 20:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/26/22 11:21	10/26/22 20:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*10/26/22 11:21*	*10/26/22 20:49*	*1*

Lab Sample ID: LCS 880-37877/2-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37877

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	1003		mg/Kg		100	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-37877/2-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37877

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	118		70 - 130

Lab Sample ID: LCSD 880-37877/3-A
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37877

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1328	*+ *1	mg/Kg		133	70 - 130	21	20
Diesel Range Organics (Over C10-C28)			1000	1159		mg/Kg		116	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	117		70 - 130
o-Terphenyl	137	S1+	70 - 130

Lab Sample ID: 890-3276-A-21-B MS
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 37877

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 *+ *1	998	1122		mg/Kg		110	70 - 130
Diesel Range Organics (Over C10-C28)	<49.8	U	998	938.0		mg/Kg		94	70 - 130

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

Lab Sample ID: 890-3276-A-21-C MSD
Matrix: Solid
Analysis Batch: 37857

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 37877

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 *+ *1	998	937.6		mg/Kg		91	70 - 130	18	20
Diesel Range Organics (Over C10-C28)	<49.8	U	998	1117		mg/Kg		112	70 - 130	17	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	97		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37786/1-A
Matrix: Solid
Analysis Batch: 37915

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			10/26/22 18:24	1

Lab Sample ID: LCS 880-37786/2-A
Matrix: Solid
Analysis Batch: 37915

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.5		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-37786/3-A
Matrix: Solid
Analysis Batch: 37915

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	252.8		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-3267-A-21-B MS
Matrix: Solid
Analysis Batch: 37915

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	30.0		252	293.1		mg/Kg		105	90 - 110		

Lab Sample ID: 890-3267-A-21-C MSD
Matrix: Solid
Analysis Batch: 37915

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	30.0		252	286.9		mg/Kg		102	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

GC VOA

Prep Batch: 38025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	5035	
MB 880-38025/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-38025/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-38025/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3252-A-44-H MS	Matrix Spike	Total/NA	Solid	5035	
890-3252-A-44-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 38039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	8021B	38025
MB 880-38025/5-A	Method Blank	Total/NA	Solid	8021B	38025
LCS 880-38025/1-A	Lab Control Sample	Total/NA	Solid	8021B	38025
LCSD 880-38025/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	38025
890-3252-A-44-H MS	Matrix Spike	Total/NA	Solid	8021B	38025
890-3252-A-44-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	38025

Analysis Batch: 38091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	8015B NM	37877
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015B NM	37877
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37877
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37877
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	37877
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37877

Prep Batch: 37877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	8015NM Prep	
MB 880-37877/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37877/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37877/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3276-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3276-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Soluble	Solid	DI Leach	
MB 880-37786/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37786/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37786/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

HPLC/IC (Continued)

Leach Batch: 37786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3267-A-21-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3267-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3272-1	SW08	Soluble	Solid	300.0	37786
MB 880-37786/1-A	Method Blank	Soluble	Solid	300.0	37786
LCS 880-37786/2-A	Lab Control Sample	Soluble	Solid	300.0	37786
LCSD 880-37786/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37786
890-3267-A-21-B MS	Matrix Spike	Soluble	Solid	300.0	37786
890-3267-A-21-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37786

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Client Sample ID: SW08

Date Collected: 10/24/22 10:00
Date Received: 10/24/22 12:16

Lab Sample ID: 890-3272-1

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	38025	10/27/22 14:45	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	38039	10/28/22 00:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			38091	10/28/22 11:07	SM	EET MID
Total/NA	Analysis	8015 NM		1			37990	10/27/22 09:52	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37877	10/26/22 11:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37857	10/27/22 01:46	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37786	10/25/22 10:39	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37915	10/27/22 13:12	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3272-1
SDG: 03A1987049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3272-1	SW08	Solid	10/24/22 10:00	10/24/22 12:16	0 - 4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	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:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	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 #:	1061118101		

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	THM007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.4
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)
SW08	S	10.24.22	10:00	0-4'	Comp	1		X	X	X

Parameters

890-3272 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
NAB1725454826

10-24-2022

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		10.24.22 1316	4		
3			6		
5					

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3272-1
SDG Number: 03A1987049

Login Number: 3272
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: 890-3272-1
SDG Number: 03A1987049

Login Number: 3272
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/25/22 11:05 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: 890-3175-1
Laboratory Sample Delivery Group: 03A1987049
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
10/17/2022 11:19:46 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: RDX 17-21

Laboratory Job ID: 890-3175-1
SDG: 03A1987049

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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
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: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Job ID: 890-3175-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3175-1

Receipt
The samples were received on 10/6/2022 3:11 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 4.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-3175-1), SW02 (890-3175-2), SW03 (890-3175-3), SW04 (890-3175-4), SW05 (890-3175-5), SW06 (890-3175-6) and SW07 (890-3175-7).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36682 and analytical batch 880-36933 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 880-36687 and analytical batch 880-36926 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 880-36609 and analytical batch 880-36928 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: The method blank for preparation batch 880-36499 and analytical batch 880-36494 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW01

Date Collected: 10/05/22 12:40
Date Received: 10/06/22 15:11
Sample Depth: 0 - 2.5

Lab Sample ID: 890-3175-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U F1 F2	0.00202		mg/Kg		10/11/22 13:34	10/15/22 12:31	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/11/22 13:34	10/15/22 12:31	1
Ethylbenzene	<0.00202	U F1	0.00202		mg/Kg		10/11/22 13:34	10/15/22 12:31	1
m-Xylene & p-Xylene	<0.00403	U F1	0.00403		mg/Kg		10/11/22 13:34	10/15/22 12:31	1
o-Xylene	<0.00202	U F1	0.00202		mg/Kg		10/11/22 13:34	10/15/22 12:31	1
Xylenes, Total	<0.00403	U F1	0.00403		mg/Kg		10/11/22 13:34	10/15/22 12:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:31*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			10/17/22 10:03	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			10/11/22 10:34	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		10/10/22 07:38	10/10/22 12:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 12:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 12:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/10/22 07:38*	*10/10/22 12:06*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/10/22 07:38*	*10/10/22 12:06*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**30.9**		5.00		mg/Kg			10/12/22 16:22	1

Client Sample ID: SW02

Date Collected: 10/05/22 12:50
Date Received: 10/06/22 15:11
Sample Depth: 0 - 2.5

Lab Sample ID: 890-3175-2
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		10/11/22 14:39	10/15/22 03:18	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/15/22 03:18	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/15/22 03:18	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/11/22 14:39	10/15/22 03:18	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/15/22 03:18	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/11/22 14:39	10/15/22 03:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:18*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW02

Date Collected: 10/05/22 12:50
Date Received: 10/06/22 15:11
Sample Depth: 0 - 2.5

Lab Sample ID: 890-3175-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:18*	*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			10/17/22 10:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/11/22 10:34	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		10/10/22 07:38	10/10/22 13:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 13:11	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:11*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:11*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**146**		5.00		mg/Kg			10/12/22 16:36	1

Client Sample ID: SW03

Date Collected: 10/06/22 10:40
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-3
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		10/11/22 14:39	10/15/22 03:39	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 03:39	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 03:39	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/11/22 14:39	10/15/22 03:39	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 03:39	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/11/22 14:39	10/15/22 03:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:39*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:39*	*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			10/17/22 10:03	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			10/11/22 10:34	1

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW03

Date Collected: 10/06/22 10:40
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-3
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		10/10/22 07:38	10/10/22 13:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 13:32	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*81*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:32*	*1*
o-Terphenyl	*91*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**96.2**		4.99		mg/Kg			10/12/22 16:41	1

Client Sample ID: SW04

Date Collected: 10/06/22 10:50
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-4
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		10/11/22 14:39	10/15/22 03:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 03:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 03:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 03:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 03:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 03:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:59*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*10/11/22 14:39*	*10/15/22 03:59*	*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			10/17/22 10:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/11/22 10:34	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		10/10/22 07:38	10/10/22 13:54	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 13:54	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:38	10/10/22 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:54*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/10/22 07:38*	*10/10/22 13:54*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW04

Date Collected: 10/06/22 10:50
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-4

Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	77.7		5.02		mg/Kg			10/12/22 16:46	1

Client Sample ID: SW05

Date Collected: 10/06/22 11:00
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-5

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 14:39	10/15/22 04:20	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 04:20	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 04:20	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 04:20	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/11/22 14:39	10/15/22 04:20	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/11/22 14:39	10/15/22 04:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*10/11/22 14:39*	*10/15/22 04:20*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*10/11/22 14:39*	*10/15/22 04:20*	*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			10/17/22 10:03	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			10/11/22 10:34	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		10/10/22 07:38	10/10/22 14:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 14:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:15*	*1*
o-Terphenyl	*99*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	40.2		5.02		mg/Kg			10/12/22 16:51	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW06

Lab Sample ID: 890-3175-6
Matrix: Solid
Date Collected: 10/06/22 11:10
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 04:40	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 04:40	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 04:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/11/22 14:39	10/15/22 04:40	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/11/22 14:39	10/15/22 04:40	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/11/22 14:39	10/15/22 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/11/22 14:39*	*10/15/22 04:40*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/11/22 14:39*	*10/15/22 04:40*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			10/17/22 10:03	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			10/11/22 10:34	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		10/10/22 07:38	10/10/22 14:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 14:37	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:38	10/10/22 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:37*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:37*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1360**		5.02		mg/Kg			10/12/22 16:56	1

Client Sample ID: SW07

Lab Sample ID: 890-3175-7
Matrix: Solid
Date Collected: 10/06/22 11:20
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/11/22 14:39	10/15/22 05:01	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/11/22 14:39	10/15/22 05:01	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/11/22 14:39	10/15/22 05:01	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/11/22 14:39	10/15/22 05:01	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/11/22 14:39	10/15/22 05:01	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/11/22 14:39	10/15/22 05:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/11/22 14:39*	*10/15/22 05:01*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW07

Date Collected: 10/06/22 11:20
Date Received: 10/06/22 15:11
Sample Depth: 0 - 4

Lab Sample ID: 890-3175-7

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*10/11/22 14:39*	*10/15/22 05:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			10/17/22 10:03	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			10/11/22 10:34	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		10/10/22 07:38	10/10/22 14:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 14:58	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:58*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/10/22 07:38*	*10/10/22 14:58*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**261**		4.95		mg/Kg			10/12/22 17:01	1

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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)
890-3150-A-23-C MS	Matrix Spike	120	90
890-3150-A-23-D MSD	Matrix Spike Duplicate	98	87
890-3151-A-21-G MS	Matrix Spike	109	86
890-3151-A-21-H MSD	Matrix Spike Duplicate	97	108
890-3175-1	SW01	106	105
890-3175-1 MS	SW01	99	111
890-3175-1 MSD	SW01	98	102
890-3175-2	SW02	112	82
890-3175-3	SW03	98	94
890-3175-4	SW04	103	78
890-3175-5	SW05	104	95
890-3175-6	SW06	97	103
890-3175-7	SW07	100	93
LCS 880-36609/1-A	Lab Control Sample	89	84
LCS 880-36682/1-A	Lab Control Sample	93	110
LCS 880-36687/1-A	Lab Control Sample	108	109
LCSD 880-36609/2-A	Lab Control Sample Dup	96	93
LCSD 880-36682/2-A	Lab Control Sample Dup	92	110
LCSD 880-36687/2-A	Lab Control Sample Dup	110	99
MB 880-36609/5-A	Method Blank	100	80
MB 880-36682/5-A	Method Blank	92	115
MB 880-36684/5-A	Method Blank	103	84
MB 880-36687/5-A	Method Blank	86	96
MB 880-36886/5-A	Method Blank	90	110
MB 880-36926/8	Method Blank	85	98

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)
890-3175-1	SW01	82	91
890-3175-1 MS	SW01	88	88
890-3175-1 MSD	SW01	105	104
890-3175-2	SW02	80	89
890-3175-3	SW03	81	91
890-3175-4	SW04	82	92
890-3175-5	SW05	88	99
890-3175-6	SW06	83	93
890-3175-7	SW07	79	89
LCS 880-36499/2-A	Lab Control Sample	95	104
LCSD 880-36499/3-A	Lab Control Sample Dup	104	114
MB 880-36499/1-A	Method Blank	94	103

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36609/5-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36609

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/10/22 16:53	10/15/22 08:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/10/22 16:53	10/15/22 08:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*10/10/22 16:53*	*10/15/22 08:53*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*10/10/22 16:53*	*10/15/22 08:53*	*1*

Lab Sample ID: LCS 880-36609/1-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09563		mg/Kg		96	70 - 130
Toluene	0.100	0.09823		mg/Kg		98	70 - 130
Ethylbenzene	0.100	0.09267		mg/Kg		93	70 - 130
m-Xylene & p-Xylene	0.200	0.1924		mg/Kg		96	70 - 130
o-Xylene	0.100	0.09704		mg/Kg		97	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*

Lab Sample ID: LCSD 880-36609/2-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09888		mg/Kg		99	70 - 130	3	35
Toluene	0.100	0.1027		mg/Kg		103	70 - 130	4	35
Ethylbenzene	0.100	0.09791		mg/Kg		98	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.2013		mg/Kg		101	70 - 130	4	35
o-Xylene	0.100	0.1024		mg/Kg		102	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 890-3150-A-23-C MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1 F2	0.100	0.04224	F1	mg/Kg		42	70 - 130
Toluene	<0.00200	U F1 F2	0.100	0.05595	F1	mg/Kg		56	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: 890-3150-A-23-C MS
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U F1	0.100	0.06608	F1	mg/Kg		66	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1334	F1	mg/Kg		67	70 - 130
o-Xylene	<0.00200	U	0.100	0.07676		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: 890-3150-A-23-D MSD
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36609

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.0990	0.08809	F2	mg/Kg		89	70 - 130	70	35
Toluene	<0.00200	U F1 F2	0.0990	0.09250	F2	mg/Kg		93	70 - 130	49	35
Ethylbenzene	<0.00200	U F1	0.0990	0.08628		mg/Kg		87	70 - 130	27	35
m-Xylene & p-Xylene	<0.00399	U F1	0.198	0.1727		mg/Kg		87	70 - 130	26	35
o-Xylene	<0.00200	U	0.0990	0.09104		mg/Kg		92	70 - 130	17	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

Lab Sample ID: MB 880-36682/5-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36682

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 13:34	10/15/22 12:03	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 13:34	10/15/22 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:03*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*10/11/22 13:34*	*10/15/22 12:03*	*1*

Lab Sample ID: LCS 880-36682/1-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09689		mg/Kg		97	70 - 130
Toluene	0.100	0.09359		mg/Kg		94	70 - 130
Ethylbenzene	0.100	0.08062		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	0.200	0.1616		mg/Kg		81	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-36682/1-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36682

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.08028		mg/Kg		80	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-36682/2-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36682

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1005		mg/Kg		100	70 - 130	4	35
Toluene			0.100	0.09574		mg/Kg		96	70 - 130	2	35
Ethylbenzene			0.100	0.08266		mg/Kg		83	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1659		mg/Kg		83	70 - 130	3	35
o-Xylene			0.100	0.08312		mg/Kg		83	70 - 130	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: 890-3175-1 MS
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 36682

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1 F2	0.101	0.09405		mg/Kg		93	70 - 130		
Toluene	<0.00202	U	0.101	0.09271		mg/Kg		92	70 - 130		
Ethylbenzene	<0.00202	U F1	0.101	0.07908		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene	<0.00403	U F1	0.202	0.1583		mg/Kg		78	70 - 130		
o-Xylene	<0.00202	U F1	0.101	0.07941		mg/Kg		78	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3175-1 MSD
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 36682

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	0.06368	F1 F2	mg/Kg		64	70 - 130	39	35
Toluene	<0.00202	U	0.0994	0.06957		mg/Kg		70	70 - 130	29	35
Ethylbenzene	<0.00202	U F1	0.0994	0.06289	F1	mg/Kg		63	70 - 130	23	35
m-Xylene & p-Xylene	<0.00403	U F1	0.199	0.1285	F1	mg/Kg		65	70 - 130	21	35
o-Xylene	<0.00202	U F1	0.0994	0.06546	F1	mg/Kg		65	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: 890-3175-1 MSD
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 36682

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: MB 880-36684/5-A
Matrix: Solid
Analysis Batch: 36928

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:22	10/14/22 22:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 14:22	10/14/22 22:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:22	10/14/22 22:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 14:22	10/14/22 22:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	10/11/22 14:22	10/14/22 22:12	1
1,4-Difluorobenzene (Surr)	84		70 - 130	10/11/22 14:22	10/14/22 22:12	1

Lab Sample ID: MB 880-36687/5-A
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/11/22 14:39	10/14/22 21:49	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/11/22 14:39	10/14/22 21:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		70 - 130	10/11/22 14:39	10/14/22 21:49	1
1,4-Difluorobenzene (Surr)	96		70 - 130	10/11/22 14:39	10/14/22 21:49	1

Lab Sample ID: LCS 880-36687/1-A
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36687

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1156		mg/Kg		116	70 - 130
Toluene	0.100	0.1061		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1095		mg/Kg		109	70 - 130
m-Xylene & p-Xylene	0.200	0.2219		mg/Kg		111	70 - 130
o-Xylene	0.100	0.1093		mg/Kg		109	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-36687/1-A
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36687

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: LCSD 880-36687/2-A
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36687

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1073		mg/Kg		107	70 - 130	7	35
Toluene			0.100	0.09933		mg/Kg		99	70 - 130	7	35
Ethylbenzene			0.100	0.1022		mg/Kg		102	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2179		mg/Kg		109	70 - 130	2	35
o-Xylene			0.100	0.1081		mg/Kg		108	70 - 130	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 890-3151-A-21-G MS
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U F2 F1	0.101	0.05102	F1	mg/Kg		51	70 - 130
Toluene	<0.00202	U F1	0.101	0.05844	F1	mg/Kg		58	70 - 130
Ethylbenzene	<0.00202	U F1	0.101	0.06664	F1	mg/Kg		66	70 - 130
m-Xylene & p-Xylene	<0.00403	U F1	0.201	0.1336	F1	mg/Kg		66	70 - 130
o-Xylene	<0.00202	U F1	0.101	0.06708	F1	mg/Kg		67	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

Lab Sample ID: 890-3151-A-21-H MSD
Matrix: Solid
Analysis Batch: 36926

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 36687

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F2 F1	0.0990	0.08190	F2	mg/Kg		83	70 - 130	46	35
Toluene	<0.00202	U F1	0.0990	0.07289		mg/Kg		74	70 - 130	22	35
Ethylbenzene	<0.00202	U F1	0.0990	0.07137		mg/Kg		72	70 - 130	7	35
m-Xylene & p-Xylene	<0.00403	U F1	0.198	0.1444		mg/Kg		73	70 - 130	8	35
o-Xylene	<0.00202	U F1	0.0990	0.07130		mg/Kg		72	70 - 130	6	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: MB 880-36886/5-A
Matrix: Solid
Analysis Batch: 36933

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36886

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:52	10/15/22 00:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/13/22 13:52	10/15/22 00:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:52	10/15/22 00:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/13/22 13:52	10/15/22 00:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*10/13/22 13:52*	*10/15/22 00:27*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*10/13/22 13:52*	*10/15/22 00:27*	*1*

Lab Sample ID: MB 880-36926/8
Matrix: Solid
Analysis Batch: 36926

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg			10/14/22 11:01	1
Toluene	<0.00200	U	0.00200		mg/Kg			10/14/22 11:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg			10/14/22 11:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg			10/14/22 11:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg			10/14/22 11:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			10/14/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*10/14/22 11:01*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*		*10/14/22 11:01*	*1*

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

Lab Sample ID: MB 880-36499/1-A
Matrix: Solid
Analysis Batch: 36494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36499

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		10/10/22 07:38	10/10/22 11:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 11:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:38	10/10/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*10/10/22 07:38*	*10/10/22 11:01*	*1*
o-Terphenyl	*103*		*70 - 130*	*10/10/22 07:38*	*10/10/22 11:01*	*1*

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-36499/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36494 — **Prep Batch: 36499**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	867.7		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	909.1		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-36499/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36494 — **Prep Batch: 36499**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	919.2		mg/Kg		92	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	966.8		mg/Kg		97	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*114*		*70 - 130*

Lab Sample ID: 890-3175-1 MS — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36494 — **Prep Batch: 36499**

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

Lab Sample ID: 890-3175-1 MSD — **Client Sample ID: SW01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36494 — **Prep Batch: 36499**

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36520/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/12/22 15:38	1

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-36520/2-A
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	256.7		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36520/3-A
Matrix: Solid
Analysis Batch: 36820

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	257.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3175-7 MS
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: SW07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	261		248	515.1		mg/Kg		103	90 - 110		

Lab Sample ID: 890-3175-7 MSD
Matrix: Solid
Analysis Batch: 36820

Client Sample ID: SW07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	261		248	516.5		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

GC VOA

Prep Batch: 36609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36609/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36609/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36609/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3150-A-23-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3150-A-23-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 36682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	5035	
MB 880-36682/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36682/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36682/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3175-1 MS	SW01	Total/NA	Solid	5035	
890-3175-1 MSD	SW01	Total/NA	Solid	5035	

Prep Batch: 36684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36684/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 36687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-2	SW02	Total/NA	Solid	5035	
890-3175-3	SW03	Total/NA	Solid	5035	
890-3175-4	SW04	Total/NA	Solid	5035	
890-3175-5	SW05	Total/NA	Solid	5035	
890-3175-6	SW06	Total/NA	Solid	5035	
890-3175-7	SW07	Total/NA	Solid	5035	
MB 880-36687/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36687/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36687/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3151-A-21-G MS	Matrix Spike	Total/NA	Solid	5035	
890-3151-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 36886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36886/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 36926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-2	SW02	Total/NA	Solid	8021B	36687
890-3175-3	SW03	Total/NA	Solid	8021B	36687
890-3175-4	SW04	Total/NA	Solid	8021B	36687
890-3175-5	SW05	Total/NA	Solid	8021B	36687
890-3175-6	SW06	Total/NA	Solid	8021B	36687
890-3175-7	SW07	Total/NA	Solid	8021B	36687
MB 880-36687/5-A	Method Blank	Total/NA	Solid	8021B	36687
MB 880-36926/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-36687/1-A	Lab Control Sample	Total/NA	Solid	8021B	36687
LCSD 880-36687/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36687
890-3151-A-21-G MS	Matrix Spike	Total/NA	Solid	8021B	36687
890-3151-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36687

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

GC VOA

Analysis Batch: 36928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36609/5-A	Method Blank	Total/NA	Solid	8021B	36609
MB 880-36684/5-A	Method Blank	Total/NA	Solid	8021B	36684
LCS 880-36609/1-A	Lab Control Sample	Total/NA	Solid	8021B	36609
LCSD 880-36609/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36609
890-3150-A-23-C MS	Matrix Spike	Total/NA	Solid	8021B	36609
890-3150-A-23-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36609

Analysis Batch: 36933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	8021B	36682
MB 880-36682/5-A	Method Blank	Total/NA	Solid	8021B	36682
MB 880-36886/5-A	Method Blank	Total/NA	Solid	8021B	36886
LCS 880-36682/1-A	Lab Control Sample	Total/NA	Solid	8021B	36682
LCSD 880-36682/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36682
890-3175-1 MS	SW01	Total/NA	Solid	8021B	36682
890-3175-1 MSD	SW01	Total/NA	Solid	8021B	36682

Analysis Batch: 37105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	Total BTEX	
890-3175-2	SW02	Total/NA	Solid	Total BTEX	
890-3175-3	SW03	Total/NA	Solid	Total BTEX	
890-3175-4	SW04	Total/NA	Solid	Total BTEX	
890-3175-5	SW05	Total/NA	Solid	Total BTEX	
890-3175-6	SW06	Total/NA	Solid	Total BTEX	
890-3175-7	SW07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 36494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	8015B NM	36499
890-3175-2	SW02	Total/NA	Solid	8015B NM	36499
890-3175-3	SW03	Total/NA	Solid	8015B NM	36499
890-3175-4	SW04	Total/NA	Solid	8015B NM	36499
890-3175-5	SW05	Total/NA	Solid	8015B NM	36499
890-3175-6	SW06	Total/NA	Solid	8015B NM	36499
890-3175-7	SW07	Total/NA	Solid	8015B NM	36499
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015B NM	36499
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36499
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36499
890-3175-1 MS	SW01	Total/NA	Solid	8015B NM	36499
890-3175-1 MSD	SW01	Total/NA	Solid	8015B NM	36499

Prep Batch: 36499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	8015NM Prep	
890-3175-2	SW02	Total/NA	Solid	8015NM Prep	
890-3175-3	SW03	Total/NA	Solid	8015NM Prep	
890-3175-4	SW04	Total/NA	Solid	8015NM Prep	
890-3175-5	SW05	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

GC Semi VOA (Continued)

Prep Batch: 36499 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-6	SW06	Total/NA	Solid	8015NM Prep	
890-3175-7	SW07	Total/NA	Solid	8015NM Prep	
MB 880-36499/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36499/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36499/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3175-1 MS	SW01	Total/NA	Solid	8015NM Prep	
890-3175-1 MSD	SW01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Total/NA	Solid	8015 NM	
890-3175-2	SW02	Total/NA	Solid	8015 NM	
890-3175-3	SW03	Total/NA	Solid	8015 NM	
890-3175-4	SW04	Total/NA	Solid	8015 NM	
890-3175-5	SW05	Total/NA	Solid	8015 NM	
890-3175-6	SW06	Total/NA	Solid	8015 NM	
890-3175-7	SW07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Soluble	Solid	DI Leach	
890-3175-2	SW02	Soluble	Solid	DI Leach	
890-3175-3	SW03	Soluble	Solid	DI Leach	
890-3175-4	SW04	Soluble	Solid	DI Leach	
890-3175-5	SW05	Soluble	Solid	DI Leach	
890-3175-6	SW06	Soluble	Solid	DI Leach	
890-3175-7	SW07	Soluble	Solid	DI Leach	
MB 880-36520/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3175-7 MS	SW07	Soluble	Solid	DI Leach	
890-3175-7 MSD	SW07	Soluble	Solid	DI Leach	

Analysis Batch: 36820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3175-1	SW01	Soluble	Solid	300.0	36520
890-3175-2	SW02	Soluble	Solid	300.0	36520
890-3175-3	SW03	Soluble	Solid	300.0	36520
890-3175-4	SW04	Soluble	Solid	300.0	36520
890-3175-5	SW05	Soluble	Solid	300.0	36520
890-3175-6	SW06	Soluble	Solid	300.0	36520
890-3175-7	SW07	Soluble	Solid	300.0	36520
MB 880-36520/1-A	Method Blank	Soluble	Solid	300.0	36520
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	300.0	36520
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36520
890-3175-7 MS	SW07	Soluble	Solid	300.0	36520
890-3175-7 MSD	SW07	Soluble	Solid	300.0	36520

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW01

Date Collected: 10/05/22 12:40
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-1
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			4.96 g	5 mL	36682	10/11/22 13:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36933	10/15/22 12:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 12:06	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:22	CH	EET MID

Client Sample ID: SW02

Date Collected: 10/05/22 12:50
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-2
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			5.01 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 03:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 13:11	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:36	CH	EET MID

Client Sample ID: SW03

Date Collected: 10/06/22 10:40
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 03:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 13:32	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:41	CH	EET MID

Client Sample ID: SW04

Date Collected: 10/06/22 10:50
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-4
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	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 03:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW04

Date Collected: 10/06/22 10:50
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-4
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			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 13:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:46	CH	EET MID

Client Sample ID: SW05

Date Collected: 10/06/22 11:00
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 04:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 14:15	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:51	CH	EET MID

Client Sample ID: SW06

Date Collected: 10/06/22 11:10
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 04:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 14:37	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 16:56	CH	EET MID

Client Sample ID: SW07

Date Collected: 10/06/22 11:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-7
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			5.05 g	5 mL	36687	10/11/22 14:39	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	36926	10/15/22 05:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37105	10/17/22 10:03	AJ	EET MID
Total/NA	Analysis	8015 NM		1			36665	10/11/22 10:34	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36499	10/10/22 07:38	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36494	10/10/22 14:58	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Client Sample ID: SW07

Date Collected: 10/06/22 11:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3175-7

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			5.05 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:01	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: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3175-1
SDG: 03A1987049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3175-1	SW01	Solid	10/05/22 12:40	10/06/22 15:11	0 - 2.5
890-3175-2	SW02	Solid	10/05/22 12:50	10/06/22 15:11	0 - 2.5
890-3175-3	SW03	Solid	10/06/22 10:40	10/06/22 15:11	0 - 4
890-3175-4	SW04	Solid	10/06/22 10:50	10/06/22 15:11	0 - 4
890-3175-5	SW05	Solid	10/06/22 11:00	10/06/22 15:11	0 - 4
890-3175-6	SW06	Solid	10/06/22 11:10	10/06/22 15:11	0 - 4
890-3175-7	SW07	Solid	10/06/22 11:20	10/06/22 15:11	0 - 4

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Chain of Custody

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

Work Order No: _____

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Project Manager:	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:	RDX 17-21	Turn Around	
Project Number:	03A1987049	☑ 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 #:	1061118101		

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Samples Received Intact:	(Yes) No	Thermometer ID:	TM007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	4.8	
Total Containers:		Corrected Temperature:	4.6	

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)	Sample Comments
SW01	S	10.5.22	12:40	0-2.5'	Comp	1		X	X	X	
SW02	S	10.5.22	12:50	0-2.5'	Comp	1		X	X	X	
SW03	S	10.6.22	10:40	0-4'	Comp	1		X	X	X	**Incident Numbers**
SW04	S	10.6.22	10:50	0-4'	Comp	1		X	X	X	NAB1725454826
SW05	S	10.6.22	11:00	0-4'	Comp	1		X	X	X	
SW06	S	10.6.22	11:10	0-4'	Comp	1		X	X	X	
SW07	S	10.6.22	11:20	0-4'	Comp	1		X	X	X	

890-3175 Chain of Custody

10.6.22

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		10.6.22 1515	4		
3			6		
5					

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3175-1
SDG Number: 03A1987049

Login Number: 3175
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: 890-3175-1
SDG Number: 03A1987049

Login Number: 3175
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/10/22 08:41 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: 890-3177-1
Laboratory Sample Delivery Group: 03A1987049
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
10/17/2022 12:13:08 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: RDX 17-21

Laboratory Job ID: 890-3177-1
SDG: 03A1987049

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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
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: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Job ID: 890-3177-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3177-1

Receipt
The samples were received on 10/6/2022 3:11 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 4.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3177-1), FS02 (890-3177-2), FS03 (890-3177-3), FS04 (890-3177-4), FS05 (890-3177-5), FS06 (890-3177-6), FS07 (890-3177-7), FS08 (890-3177-8), FS09 (890-3177-9), FS10 (890-3177-10), FS11 (890-3177-11), FS12 (890-3177-12), FS13 (890-3177-13), FS14 (890-3177-14) and FS15 (890-3177-15).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-36884 and analytical batch 880-37019 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
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: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS01

Lab Sample ID: 890-3177-1
Matrix: Solid
Date Collected: 10/05/22 12:00
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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		10/13/22 13:49	10/16/22 13:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 13:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 13:03	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 13:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 13:03	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:03*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:03*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 11:40	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 11:40	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*10/10/22 07:33*	*10/11/22 11:40*	*1*
o-Terphenyl	*89*		*70 - 130*	*10/10/22 07:33*	*10/11/22 11:40*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	113		5.04		mg/Kg			10/12/22 17:34	1

Client Sample ID: FS02

Lab Sample ID: 890-3177-2
Matrix: Solid
Date Collected: 10/05/22 12:10
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		10/13/22 13:49	10/16/22 13:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		10/13/22 13:49	10/16/22 13:24	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		10/13/22 13:49	10/16/22 13:24	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		10/13/22 13:49	10/16/22 13:24	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		10/13/22 13:49	10/16/22 13:24	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		10/13/22 13:49	10/16/22 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:24*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS02

Lab Sample ID: 890-3177-2
Matrix: Solid
Date Collected: 10/05/22 12:10
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 12:45	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 12:45	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/10/22 07:33*	*10/11/22 12:45*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/10/22 07:33*	*10/11/22 12:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**81.9**		4.98		mg/Kg			10/12/22 17:39	1

Client Sample ID: FS03

Lab Sample ID: 890-3177-3
Matrix: Solid
Date Collected: 10/05/22 12:20
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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		10/13/22 13:49	10/16/22 13:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 13:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 13:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 13:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 13:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:44*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*10/13/22 13:49*	*10/16/22 13:44*	*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			10/17/22 10:58	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			10/12/22 10:45	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS03

Lab Sample ID: 890-3177-3
Matrix: Solid
Date Collected: 10/05/22 12:20
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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		10/10/22 07:33	10/11/22 13:07	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 13:07	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:07*	*1*
o-Terphenyl	*83*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:07*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**41.3**		4.99		mg/Kg			10/12/22 17:44	1

Client Sample ID: FS04

Lab Sample ID: 890-3177-4
Matrix: Solid
Date Collected: 10/05/22 12:30
Date Received: 10/06/22 15:11
Sample Depth: 2.5

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		10/13/22 13:49	10/16/22 14:05	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 14:05	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 14:05	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 14:05	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 14:05	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 14:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*10/13/22 13:49*	*10/16/22 14:05*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/13/22 13:49*	*10/16/22 14:05*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 13:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 13:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:28*	*1*
o-Terphenyl	*90*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:28*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS04

Lab Sample ID: 890-3177-4
Matrix: Solid
Date Collected: 10/05/22 12:30
Date Received: 10/06/22 15:11
Sample Depth: 2.5

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	285		5.05		mg/Kg			10/12/22 17:49	1

Client Sample ID: FS05

Lab Sample ID: 890-3177-5
Matrix: Solid
Date Collected: 10/06/22 09:00
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 15:20	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 15:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 15:20*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*10/13/22 13:49*	*10/16/22 15:20*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 13:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 13:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 13:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:49*	*1*
o-Terphenyl	*93*		*70 - 130*	*10/10/22 07:33*	*10/11/22 13:49*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	91.3		5.02		mg/Kg			10/12/22 17:54	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS06

Lab Sample ID: 890-3177-6
Matrix: Solid
Date Collected: 10/06/22 09:10
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:40	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:40	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 15:40	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 15:40	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*10/13/22 13:49*	*10/16/22 15:40*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*10/13/22 13:49*	*10/16/22 15:40*	*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			10/17/22 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/12/22 10:45	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		10/10/22 07:33	10/11/22 14:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 14:11	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:11*	*1*
o-Terphenyl	*81*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:11*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**223**		4.95		mg/Kg			10/12/22 17:59	1

Client Sample ID: FS07

Lab Sample ID: 890-3177-7
Matrix: Solid
Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 17:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 17:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 17:30	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 17:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 17:30	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*10/13/22 13:49*	*10/16/22 17:30*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS07

Lab Sample ID: 890-3177-7
Matrix: Solid
Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/13/22 13:49*	*10/16/22 17:30*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 14:32	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 14:32	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 14:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:32*	*1*
o-Terphenyl	*81*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:32*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**191**		5.04		mg/Kg			10/12/22 18:04	1

Client Sample ID: FS08

Lab Sample ID: 890-3177-8
Matrix: Solid
Date Collected: 10/06/22 09:30
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		10/13/22 13:49	10/16/22 17:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		10/13/22 13:49	10/16/22 17:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		10/13/22 13:49	10/16/22 17:50	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		10/13/22 13:49	10/16/22 17:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		10/13/22 13:49	10/16/22 17:50	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		10/13/22 13:49	10/16/22 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 17:50*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*10/13/22 13:49*	*10/16/22 17:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			10/17/22 10:58	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			10/12/22 10:45	1

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS08

Lab Sample ID: 890-3177-8
Matrix: Solid
Date Collected: 10/06/22 09:30
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 14:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 14:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:54*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/10/22 07:33*	*10/11/22 14:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1170**		50.2		mg/Kg			10/13/22 10:38	10

Client Sample ID: FS09

Lab Sample ID: 890-3177-9
Matrix: Solid
Date Collected: 10/06/22 09:40
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00890**		0.00200		mg/Kg		10/13/22 13:49	10/16/22 18:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 18:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 18:11	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 18:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 18:11	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:11*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:11*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00890**		0.00399		mg/Kg			10/17/22 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/12/22 10:45	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		10/10/22 07:33	10/11/22 15:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 15:15	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*10/10/22 07:33*	*10/11/22 15:15*	*1*
o-Terphenyl	*80*		*70 - 130*	*10/10/22 07:33*	*10/11/22 15:15*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS09

Lab Sample ID: 890-3177-9
Matrix: Solid
Date Collected: 10/06/22 09:40
Date Received: 10/06/22 15:11
Sample Depth: 4

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	355		50.0		mg/Kg			10/13/22 10:52	10

Client Sample ID: FS10

Lab Sample ID: 890-3177-10
Matrix: Solid
Date Collected: 10/06/22 09:50
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 18:31	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 18:31	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 18:31	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 18:31	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 18:31	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:31*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:31*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 15:37	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 15:37	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*10/10/22 07:33*	*10/11/22 15:37*	*1*
o-Terphenyl	*92*		*70 - 130*	*10/10/22 07:33*	*10/11/22 15:37*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	390		49.8		mg/Kg			10/13/22 10:57	10

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS11

Lab Sample ID: 890-3177-11
Matrix: Solid
Date Collected: 10/06/22 09:50
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 18:51	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 18:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 18:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 18:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 18:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:51*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*10/13/22 13:49*	*10/16/22 18:51*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 16:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 16:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*10/10/22 07:33*	*10/11/22 16:45*	*1*
o-Terphenyl	*79*		*70 - 130*	*10/10/22 07:33*	*10/11/22 16:45*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	134		5.00		mg/Kg			10/13/22 11:02	1

Client Sample ID: FS12

Lab Sample ID: 890-3177-12
Matrix: Solid
Date Collected: 10/06/22 10:00
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:12	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 19:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:12	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		10/13/22 13:49	10/16/22 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:12*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS12

Lab Sample ID: 890-3177-12
Matrix: Solid
Date Collected: 10/06/22 10:00
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:12*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 17:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:06	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:06*	*1*
o-Terphenyl	*78*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:06*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**520**		49.9		mg/Kg			10/13/22 11:07	10

Client Sample ID: FS13

Lab Sample ID: 890-3177-13
Matrix: Solid
Date Collected: 10/06/22 10:10
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:32	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:32	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:32	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 19:32	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 19:32	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		10/13/22 13:49	10/16/22 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:32*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			10/17/22 10:58	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			10/12/22 10:45	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS13

Lab Sample ID: 890-3177-13
Matrix: Solid
Date Collected: 10/06/22 10:10
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:27	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:27*	*1*
o-Terphenyl	*79*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:27*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**364**		50.3		mg/Kg			10/13/22 11:27	10

Client Sample ID: FS14

Lab Sample ID: 890-3177-14
Matrix: Solid
Date Collected: 10/06/22 10:20
Date Received: 10/06/22 15:11
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 19:53	1
Toluene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 19:53	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 19:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 19:53	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		10/13/22 13:49	10/16/22 19:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		10/13/22 13:49	10/16/22 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:53*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*10/13/22 13:49*	*10/16/22 19:53*	*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			10/17/22 10:58	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			10/12/22 10:45	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		10/10/22 07:33	10/11/22 17:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:49	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		10/10/22 07:33	10/11/22 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:49*	*1*
o-Terphenyl	*88*		*70 - 130*	*10/10/22 07:33*	*10/11/22 17:49*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS14
Date Collected: 10/06/22 10:20
Date Received: 10/06/22 15:11
Sample Depth: 4

Lab Sample ID: 890-3177-14
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470		49.7		mg/Kg			10/13/22 12:11	10

Client Sample ID: FS15
Date Collected: 10/06/22 10:30
Date Received: 10/06/22 15:11
Sample Depth: 4

Lab Sample ID: 890-3177-15
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		10/13/22 13:49	10/16/22 20:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 20:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 20:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 20:13	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		10/13/22 13:49	10/16/22 20:13	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		10/13/22 13:49	10/16/22 20:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*10/13/22 13:49*	*10/16/22 20:13*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*10/13/22 13:49*	*10/16/22 20:13*	*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			10/17/22 10:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			10/12/22 10:45	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		10/10/22 07:33	10/11/22 18:11	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 18:11	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		10/10/22 07:33	10/11/22 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*10/10/22 07:33*	*10/11/22 18:11*	*1*
o-Terphenyl	*78*		*70 - 130*	*10/10/22 07:33*	*10/11/22 18:11*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	527		50.0		mg/Kg			10/13/22 12:16	10

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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)
890-3174-A-1-H MS	Matrix Spike	102	99
890-3174-A-1-I MSD	Matrix Spike Duplicate	97	102
890-3177-1	FS01	97	103
890-3177-2	FS02	98	103
890-3177-3	FS03	101	106
890-3177-4	FS04	98	104
890-3177-5	FS05	94	107
890-3177-6	FS06	99	97
890-3177-7	FS07	93	104
890-3177-8	FS08	94	123
890-3177-9	FS09	78	114
890-3177-10	FS10	94	104
890-3177-11	FS11	99	100
890-3177-12	FS12	94	102
890-3177-13	FS13	95	101
890-3177-14	FS14	94	105
890-3177-15	FS15	97	103
LCS 880-36884/1-A	Lab Control Sample	95	108
LCSD 880-36884/2-A	Lab Control Sample Dup	91	105
MB 880-36884/5-A	Method Blank	89	111
MB 880-36974/5-A	Method Blank	94	108

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)
890-3177-1	FS01	97	89
890-3177-1 MS	FS01	106	83
890-3177-1 MSD	FS01	93	83
890-3177-2	FS02	88	80
890-3177-3	FS03	91	83
890-3177-4	FS04	98	90
890-3177-5	FS05	100	93
890-3177-6	FS06	91	81
890-3177-7	FS07	91	81
890-3177-8	FS08	89	80
890-3177-9	FS09	89	80
890-3177-10	FS10	101	92
890-3177-11	FS11	91	79
890-3177-12	FS12	88	78
890-3177-13	FS13	90	79
890-3177-14	FS14	96	88
890-3177-15	FS15	88	78
LCS 880-36497/2-A	Lab Control Sample	99	99

Surrogate Summary

Client: Ensolum Job ID: 890-3177-1
Project/Site: RDX 17-21 SDG: 03A1987049

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
LCSD 880-36497/3-A	Lab Control Sample Dup	107	108								
MB 880-36497/1-A	Method Blank	121	112								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-36884/5-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36884

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/13/22 13:49	10/16/22 11:13	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/13/22 13:49	10/16/22 11:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:13*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*10/13/22 13:49*	*10/16/22 11:13*	*1*

Lab Sample ID: LCS 880-36884/1-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1031		mg/Kg		103	70 - 130
Toluene	0.100	0.09984		mg/Kg		100	70 - 130
Ethylbenzene	0.100	0.08607		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	0.200	0.1715		mg/Kg		86	70 - 130
o-Xylene	0.100	0.08524		mg/Kg		85	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-36884/2-A
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08812		mg/Kg		88	70 - 130	16	35
Toluene	0.100	0.08699		mg/Kg		87	70 - 130	14	35
Ethylbenzene	0.100	0.07410		mg/Kg		74	70 - 130	15	35
m-Xylene & p-Xylene	0.200	0.1486		mg/Kg		74	70 - 130	14	35
o-Xylene	0.100	0.07442		mg/Kg		74	70 - 130	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-3174-A-1-H MS
Matrix: Solid
Analysis Batch: 37019

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.04440	F1	mg/Kg		44	70 - 130
Toluene	<0.00201	U F2 F1	0.100	0.05500	F1	mg/Kg		55	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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

Lab Sample ID: 890-3174-A-1-H MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37019 — **Prep Batch: 36884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U F2 F1	0.100	0.05117	F1	mg/Kg		51	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.201	0.1031	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F2 F1	0.100	0.05409	F1	mg/Kg		54	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-3174-A-1-I MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37019 — **Prep Batch: 36884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0996	0.09045	F2	mg/Kg		91	70 - 130	68	35
Toluene	<0.00201	U F2 F1	0.0996	0.09442	F2	mg/Kg		95	70 - 130	53	35
Ethylbenzene	<0.00201	U F2 F1	0.0996	0.08216	F2	mg/Kg		82	70 - 130	46	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.199	0.1661	F2	mg/Kg		83	70 - 130	47	35
o-Xylene	<0.00201	U F2 F1	0.0996	0.08174	F2	mg/Kg		82	70 - 130	41	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: MB 880-36974/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 37019 — **Prep Batch: 36974**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		10/14/22 13:40	10/15/22 23:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		10/14/22 13:40	10/15/22 23:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		10/14/22 13:40	10/15/22 23:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		10/14/22 13:40	10/15/22 23:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*10/14/22 13:40*	*10/15/22 23:39*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*10/14/22 13:40*	*10/15/22 23:39*	*1*

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

Lab Sample ID: MB 880-36497/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36635 — **Prep Batch: 36497**

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		10/10/22 07:33	10/11/22 10:35	1

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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

Lab Sample ID: MB 880-36497/1-A
Matrix: Solid
Analysis Batch: 36635

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36497

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		10/10/22 07:33	10/11/22 10:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		10/10/22 07:33	10/11/22 10:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*10/10/22 07:33*	*10/11/22 10:35*	*1*
o-Terphenyl	*112*		*70 - 130*	*10/10/22 07:33*	*10/11/22 10:35*	*1*

Lab Sample ID: LCS 880-36497/2-A
Matrix: Solid
Analysis Batch: 36635

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	803.9		mg/Kg		80	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1014		mg/Kg		101	70 - 130

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

Lab Sample ID: LCSD 880-36497/3-A
Matrix: Solid
Analysis Batch: 36635

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 36497

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	853.0		mg/Kg		85	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	1103		mg/Kg		110	70 - 130	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-3177-1 MS
Matrix: Solid
Analysis Batch: 36635

Client Sample ID: FS01
Prep Type: Total/NA
Prep Batch: 36497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	736.6		mg/Kg		74	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	844.3		mg/Kg		85	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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

Lab Sample ID: 890-3177-1 MSD — **Client Sample ID: FS01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 36635 — **Prep Batch: 36497**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	734.4		mg/Kg		74	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	841.0		mg/Kg		84	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-36520/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			10/12/22 15:38	1

Lab Sample ID: LCS 880-36520/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	256.7		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-36520/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	257.3		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3175-A-7-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	261		248	515.1		mg/Kg		103	90 - 110

Lab Sample ID: 890-3175-A-7-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 36820

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	261		248	516.5		mg/Kg		103	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-36521/1-A
Matrix: Solid
Analysis Batch: 36824

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 10:23	1

Lab Sample ID: LCS 880-36521/2-A
Matrix: Solid
Analysis Batch: 36824

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	257.3		mg/Kg		103	90 - 110		

Lab Sample ID: LCSD 880-36521/3-A
Matrix: Solid
Analysis Batch: 36824

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	250.8		mg/Kg		100	90 - 110	3	20

Lab Sample ID: 890-3177-8 MS
Matrix: Solid
Analysis Batch: 36824

Client Sample ID: FS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1170		2510	3846		mg/Kg		107	90 - 110		

Lab Sample ID: 890-3177-8 MSD
Matrix: Solid
Analysis Batch: 36824

Client Sample ID: FS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1170		2510	3822		mg/Kg		106	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

GC VOA

Prep Batch: 36884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	5035	
890-3177-2	FS02	Total/NA	Solid	5035	
890-3177-3	FS03	Total/NA	Solid	5035	
890-3177-4	FS04	Total/NA	Solid	5035	
890-3177-5	FS05	Total/NA	Solid	5035	
890-3177-6	FS06	Total/NA	Solid	5035	
890-3177-7	FS07	Total/NA	Solid	5035	
890-3177-8	FS08	Total/NA	Solid	5035	
890-3177-9	FS09	Total/NA	Solid	5035	
890-3177-10	FS10	Total/NA	Solid	5035	
890-3177-11	FS11	Total/NA	Solid	5035	
890-3177-12	FS12	Total/NA	Solid	5035	
890-3177-13	FS13	Total/NA	Solid	5035	
890-3177-14	FS14	Total/NA	Solid	5035	
890-3177-15	FS15	Total/NA	Solid	5035	
MB 880-36884/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-36884/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-36884/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3174-A-1-H MS	Matrix Spike	Total/NA	Solid	5035	
890-3174-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 36974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-36974/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 37019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	8021B	36884
890-3177-2	FS02	Total/NA	Solid	8021B	36884
890-3177-3	FS03	Total/NA	Solid	8021B	36884
890-3177-4	FS04	Total/NA	Solid	8021B	36884
890-3177-5	FS05	Total/NA	Solid	8021B	36884
890-3177-6	FS06	Total/NA	Solid	8021B	36884
890-3177-7	FS07	Total/NA	Solid	8021B	36884
890-3177-8	FS08	Total/NA	Solid	8021B	36884
890-3177-9	FS09	Total/NA	Solid	8021B	36884
890-3177-10	FS10	Total/NA	Solid	8021B	36884
890-3177-11	FS11	Total/NA	Solid	8021B	36884
890-3177-12	FS12	Total/NA	Solid	8021B	36884
890-3177-13	FS13	Total/NA	Solid	8021B	36884
890-3177-14	FS14	Total/NA	Solid	8021B	36884
890-3177-15	FS15	Total/NA	Solid	8021B	36884
MB 880-36884/5-A	Method Blank	Total/NA	Solid	8021B	36884
MB 880-36974/5-A	Method Blank	Total/NA	Solid	8021B	36974
LCS 880-36884/1-A	Lab Control Sample	Total/NA	Solid	8021B	36884
LCSD 880-36884/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	36884
890-3174-A-1-H MS	Matrix Spike	Total/NA	Solid	8021B	36884
890-3174-A-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	36884

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

GC VOA

Analysis Batch: 37135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	Total BTEX	
890-3177-2	FS02	Total/NA	Solid	Total BTEX	
890-3177-3	FS03	Total/NA	Solid	Total BTEX	
890-3177-4	FS04	Total/NA	Solid	Total BTEX	
890-3177-5	FS05	Total/NA	Solid	Total BTEX	
890-3177-6	FS06	Total/NA	Solid	Total BTEX	
890-3177-7	FS07	Total/NA	Solid	Total BTEX	
890-3177-8	FS08	Total/NA	Solid	Total BTEX	
890-3177-9	FS09	Total/NA	Solid	Total BTEX	
890-3177-10	FS10	Total/NA	Solid	Total BTEX	
890-3177-11	FS11	Total/NA	Solid	Total BTEX	
890-3177-12	FS12	Total/NA	Solid	Total BTEX	
890-3177-13	FS13	Total/NA	Solid	Total BTEX	
890-3177-14	FS14	Total/NA	Solid	Total BTEX	
890-3177-15	FS15	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 36497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	8015NM Prep	
890-3177-2	FS02	Total/NA	Solid	8015NM Prep	
890-3177-3	FS03	Total/NA	Solid	8015NM Prep	
890-3177-4	FS04	Total/NA	Solid	8015NM Prep	
890-3177-5	FS05	Total/NA	Solid	8015NM Prep	
890-3177-6	FS06	Total/NA	Solid	8015NM Prep	
890-3177-7	FS07	Total/NA	Solid	8015NM Prep	
890-3177-8	FS08	Total/NA	Solid	8015NM Prep	
890-3177-9	FS09	Total/NA	Solid	8015NM Prep	
890-3177-10	FS10	Total/NA	Solid	8015NM Prep	
890-3177-11	FS11	Total/NA	Solid	8015NM Prep	
890-3177-12	FS12	Total/NA	Solid	8015NM Prep	
890-3177-13	FS13	Total/NA	Solid	8015NM Prep	
890-3177-14	FS14	Total/NA	Solid	8015NM Prep	
890-3177-15	FS15	Total/NA	Solid	8015NM Prep	
MB 880-36497/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-36497/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-36497/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3177-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-3177-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 36635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	8015B NM	36497
890-3177-2	FS02	Total/NA	Solid	8015B NM	36497
890-3177-3	FS03	Total/NA	Solid	8015B NM	36497
890-3177-4	FS04	Total/NA	Solid	8015B NM	36497
890-3177-5	FS05	Total/NA	Solid	8015B NM	36497
890-3177-6	FS06	Total/NA	Solid	8015B NM	36497
890-3177-7	FS07	Total/NA	Solid	8015B NM	36497
890-3177-8	FS08	Total/NA	Solid	8015B NM	36497

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

GC Semi VOA (Continued)

Analysis Batch: 36635 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-9	FS09	Total/NA	Solid	8015B NM	36497
890-3177-10	FS10	Total/NA	Solid	8015B NM	36497
890-3177-11	FS11	Total/NA	Solid	8015B NM	36497
890-3177-12	FS12	Total/NA	Solid	8015B NM	36497
890-3177-13	FS13	Total/NA	Solid	8015B NM	36497
890-3177-14	FS14	Total/NA	Solid	8015B NM	36497
890-3177-15	FS15	Total/NA	Solid	8015B NM	36497
MB 880-36497/1-A	Method Blank	Total/NA	Solid	8015B NM	36497
LCS 880-36497/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	36497
LCSD 880-36497/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	36497
890-3177-1 MS	FS01	Total/NA	Solid	8015B NM	36497
890-3177-1 MSD	FS01	Total/NA	Solid	8015B NM	36497

Analysis Batch: 36742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Total/NA	Solid	8015 NM	
890-3177-2	FS02	Total/NA	Solid	8015 NM	
890-3177-3	FS03	Total/NA	Solid	8015 NM	
890-3177-4	FS04	Total/NA	Solid	8015 NM	
890-3177-5	FS05	Total/NA	Solid	8015 NM	
890-3177-6	FS06	Total/NA	Solid	8015 NM	
890-3177-7	FS07	Total/NA	Solid	8015 NM	
890-3177-8	FS08	Total/NA	Solid	8015 NM	
890-3177-9	FS09	Total/NA	Solid	8015 NM	
890-3177-10	FS10	Total/NA	Solid	8015 NM	
890-3177-11	FS11	Total/NA	Solid	8015 NM	
890-3177-12	FS12	Total/NA	Solid	8015 NM	
890-3177-13	FS13	Total/NA	Solid	8015 NM	
890-3177-14	FS14	Total/NA	Solid	8015 NM	
890-3177-15	FS15	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 36520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Soluble	Solid	DI Leach	
890-3177-2	FS02	Soluble	Solid	DI Leach	
890-3177-3	FS03	Soluble	Solid	DI Leach	
890-3177-4	FS04	Soluble	Solid	DI Leach	
890-3177-5	FS05	Soluble	Solid	DI Leach	
890-3177-6	FS06	Soluble	Solid	DI Leach	
890-3177-7	FS07	Soluble	Solid	DI Leach	
MB 880-36520/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3175-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3175-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 36521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-8	FS08	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

HPLC/IC (Continued)

Leach Batch: 36521 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-9	FS09	Soluble	Solid	DI Leach	
890-3177-10	FS10	Soluble	Solid	DI Leach	
890-3177-11	FS11	Soluble	Solid	DI Leach	
890-3177-12	FS12	Soluble	Solid	DI Leach	
890-3177-13	FS13	Soluble	Solid	DI Leach	
890-3177-14	FS14	Soluble	Solid	DI Leach	
890-3177-15	FS15	Soluble	Solid	DI Leach	
MB 880-36521/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-36521/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-36521/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3177-8 MS	FS08	Soluble	Solid	DI Leach	
890-3177-8 MSD	FS08	Soluble	Solid	DI Leach	

Analysis Batch: 36820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-1	FS01	Soluble	Solid	300.0	36520
890-3177-2	FS02	Soluble	Solid	300.0	36520
890-3177-3	FS03	Soluble	Solid	300.0	36520
890-3177-4	FS04	Soluble	Solid	300.0	36520
890-3177-5	FS05	Soluble	Solid	300.0	36520
890-3177-6	FS06	Soluble	Solid	300.0	36520
890-3177-7	FS07	Soluble	Solid	300.0	36520
MB 880-36520/1-A	Method Blank	Soluble	Solid	300.0	36520
LCS 880-36520/2-A	Lab Control Sample	Soluble	Solid	300.0	36520
LCSD 880-36520/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36520
890-3175-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	36520
890-3175-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	36520

Analysis Batch: 36824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3177-8	FS08	Soluble	Solid	300.0	36521
890-3177-9	FS09	Soluble	Solid	300.0	36521
890-3177-10	FS10	Soluble	Solid	300.0	36521
890-3177-11	FS11	Soluble	Solid	300.0	36521
890-3177-12	FS12	Soluble	Solid	300.0	36521
890-3177-13	FS13	Soluble	Solid	300.0	36521
890-3177-14	FS14	Soluble	Solid	300.0	36521
890-3177-15	FS15	Soluble	Solid	300.0	36521
MB 880-36521/1-A	Method Blank	Soluble	Solid	300.0	36521
LCS 880-36521/2-A	Lab Control Sample	Soluble	Solid	300.0	36521
LCSD 880-36521/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	36521
890-3177-8 MS	FS08	Soluble	Solid	300.0	36521
890-3177-8 MSD	FS08	Soluble	Solid	300.0	36521

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS01

Date Collected: 10/05/22 12:00
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-1
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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 13:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 11:40	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:34	CH	EET MID

Client Sample ID: FS02

Date Collected: 10/05/22 12:10
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-2
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			5.05 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 13:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 12:45	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:39	CH	EET MID

Client Sample ID: FS03

Date Collected: 10/05/22 12:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-3
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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 13:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 13:07	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:44	CH	EET MID

Client Sample ID: FS04

Date Collected: 10/05/22 12:30
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 14:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS04
Date Collected: 10/05/22 12:30
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-4
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			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 13:28	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:49	CH	EET MID

Client Sample ID: FS05
Date Collected: 10/06/22 09:00
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-5
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			4.98 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 15:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 13:49	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:54	CH	EET MID

Client Sample ID: FS06
Date Collected: 10/06/22 09:10
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 15:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 14:11	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 17:59	CH	EET MID

Client Sample ID: FS07
Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-7
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			4.99 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 17:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 14:32	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS07

Date Collected: 10/06/22 09:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	36520	10/10/22 10:05	CH	EET MID
Soluble	Analysis	300.0		1			36820	10/12/22 18:04	CH	EET MID

Client Sample ID: FS08

Date Collected: 10/06/22 09:30
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-8

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			4.96 g	5 mL	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 17:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 14:54	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 10:38	CH	EET MID

Client Sample ID: FS09

Date Collected: 10/06/22 09:40
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-9

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 18:11	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 15:15	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 10:52	CH	EET MID

Client Sample ID: FS10

Date Collected: 10/06/22 09:50
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-10

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 18:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 15:37	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 10:57	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS11

Date Collected: 10/06/22 09:50
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-11

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 18:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 16:45	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		1			36824	10/13/22 11:02	CH	EET MID

Client Sample ID: FS12

Date Collected: 10/06/22 10:00
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-12

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 19:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 17:06	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 11:07	CH	EET MID

Client Sample ID: FS13

Date Collected: 10/06/22 10:10
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-13

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 19:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 17:27	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 11:27	CH	EET MID

Client Sample ID: FS14

Date Collected: 10/06/22 10:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-14

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 19:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Client Sample ID: FS14

Date Collected: 10/06/22 10:20
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-14

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			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 17:49	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 12:11	CH	EET MID

Client Sample ID: FS15

Date Collected: 10/06/22 10:30
Date Received: 10/06/22 15:11

Lab Sample ID: 890-3177-15

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	36884	10/13/22 13:49	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37019	10/16/22 20:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37135	10/17/22 10:58	SM	EET MID
Total/NA	Analysis	8015 NM		1			36742	10/12/22 10:45	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	36497	10/10/22 07:33	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	36635	10/11/22 18:11	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	36521	10/10/22 10:07	CH	EET MID
Soluble	Analysis	300.0		10			36824	10/13/22 12:16	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: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-3177-1
SDG: 03A1987049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3177-1	FS01	Solid	10/05/22 12:00	10/06/22 15:11	2.5
890-3177-2	FS02	Solid	10/05/22 12:10	10/06/22 15:11	2.5
890-3177-3	FS03	Solid	10/05/22 12:20	10/06/22 15:11	2.5
890-3177-4	FS04	Solid	10/05/22 12:30	10/06/22 15:11	2.5
890-3177-5	FS05	Solid	10/06/22 09:00	10/06/22 15:11	4
890-3177-6	FS06	Solid	10/06/22 09:10	10/06/22 15:11	4
890-3177-7	FS07	Solid	10/06/22 09:20	10/06/22 15:11	4
890-3177-8	FS08	Solid	10/06/22 09:30	10/06/22 15:11	4
890-3177-9	FS09	Solid	10/06/22 09:40	10/06/22 15:11	4
890-3177-10	FS10	Solid	10/06/22 09:50	10/06/22 15:11	4
890-3177-11	FS11	Solid	10/06/22 09:50	10/06/22 15:11	4
890-3177-12	FS12	Solid	10/06/22 10:00	10/06/22 15:11	4
890-3177-13	FS13	Solid	10/06/22 10:10	10/06/22 15:11	4
890-3177-14	FS14	Solid	10/06/22 10:20	10/06/22 15:11	4
890-3177-15	FS15	Solid	10/06/22 10:30	10/06/22 15:11	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:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	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 #:	1061118101		

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:	4.8	
Total Containers:		Corrected Temperature:	4.6	

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	10.5.22	12:00	2.5'	Comp	1		X	X	X
FS02	S	10.5.22	12:10	2.5'	Comp	1		X	X	X
FS03	S	10.5.22	12:20	2.5'	Comp	1		X	X	X
FS04	S	10.5.22	12:30	2.5'	Comp	1		X	X	X
FS05	S	10.6.22	9:00	4'	Comp	1		X	X	X
FS06	S	10.6.22	9:10	4'	Comp	1		X	X	X
FS07	S	10.6.22	9:20	4'	Comp	1		X	X	X
FS08	S	10.6.22	9:30	4'	Comp	1		X	X	X
FS09	S	10.6.22	9:40	4'	Comp	1		X	X	X
FS10	S	10.6.22	9:50	4'	Comp	1		X	X	X

890-3177 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
NAB1725454826

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		10.6.22 1511	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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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
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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:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	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 #:	1061118101		

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

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
FS11	S	10.6.22	9:50	4'	Comp	1		X	X	X	
FS12	S	10.6.22	10:00	4'	Comp	1		X	X	X	
FS13	S	10.6.22	10:10	4'	Comp	1		X	X	X	Incident Numbers
FS14	S	10.6.22	10:20	4'	Comp	1		X	X	X	NAB1725454826
FS15	S	10.6.22	10:30	4'	Comp	1		X	X	X	

10.6.22

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		10.10.22 1511	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3177-1
SDG Number: 03A1987049

Login Number: 3177
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: 890-3177-1
SDG Number: 03A1987049

Login Number: 3177
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 10/10/22 08:41 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: 890-2852-1
Laboratory Sample Delivery Group: 03A1987049
Client Project/Site: RDX 17-21

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

Attn: Devon Team

JKramer

Authorized for release by:
9/7/2022 4:17:58 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: RDX 17-21

Laboratory Job ID: 890-2852-1
SDG: 03A1987049

Table of Contents

Eurofins Carlsbad
9/7/2022

Definitions/Glossary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high 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, 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: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Job ID: 890-2852-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2852-1

Receipt
The samples were received on 8/25/2022 3:54 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 4.0°C

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: (CCV 880-33799/2), (LCS 880-33803/1-A) and (LCSD 880-33803/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (890-2852-A-1-C MS) and (890-2852-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH07 (890-2852-1), PH07 (890-2852-2), PH08 (890-2852-3), PH08 (890-2852-4), PH09 (890-2852-5), PH09 (890-2852-6), PH10 (890-2852-7), PH10 (890-2852-8), PH11 (890-2852-9) and PH11 (890-2852-10). 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: Surrogate recovery for the following samples were outside control limits: (LCS 880-33313/2-A) and (LCSD 880-33313/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-33313 and analytical batch 880-33403 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: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH07

Lab Sample ID: 890-2852-1
Matrix: Solid
Date Collected: 08/24/22 13:00
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 14:35	1
Toluene	<0.00202	U F1	0.00202		mg/Kg		09/06/22 09:16	09/06/22 14:35	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 14:35	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/06/22 09:16	09/06/22 14:35	1
o-Xylene	<0.00202	U *+ F1	0.00202		mg/Kg		09/06/22 09:16	09/06/22 14:35	1
Xylenes, Total	<0.00403	U F1	0.00403		mg/Kg		09/06/22 09:16	09/06/22 14:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*168*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 14:35*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*09/06/22 09:16*	*09/06/22 14:35*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 13:41	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 13:41	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*08/30/22 09:23*	*08/31/22 13:41*	*1*
o-Terphenyl	*113*		*70 - 130*	*08/30/22 09:23*	*08/31/22 13:41*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**151**		5.00		mg/Kg			09/02/22 10:23	1

Client Sample ID: PH07

Lab Sample ID: 890-2852-2
Matrix: Solid
Date Collected: 08/24/22 13:05
Date Received: 08/25/22 15:54
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 15:01	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 15:01	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/06/22 09:16	09/06/22 15:01	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/06/22 09:16	09/06/22 15:01	1
o-Xylene	<0.00198	U *+	0.00198		mg/Kg		09/06/22 09:16	09/06/22 15:01	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/06/22 09:16	09/06/22 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*167*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 15:01*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH07

Lab Sample ID: 890-2852-2
Matrix: Solid
Date Collected: 08/24/22 13:05
Date Received: 08/25/22 15:54
Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*09/06/22 09:16*	*09/06/22 15:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 14:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 14:02	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*98*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:02*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:02*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.8**		4.99		mg/Kg			09/02/22 10:32	1

Client Sample ID: PH08

Lab Sample ID: 890-2852-3
Matrix: Solid
Date Collected: 08/24/22 13:10
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 15:26	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 15:26	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 15:26	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 15:26	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/06/22 09:16	09/06/22 15:26	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 15:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*162*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 15:26*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*09/06/22 09:16*	*09/06/22 15:26*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH08

Lab Sample ID: 890-2852-3
Matrix: Solid
Date Collected: 08/24/22 13:10
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 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		08/30/22 09:23	08/31/22 14:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 14:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 14:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:24*	*1*
o-Terphenyl	*111*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**344**		5.02		mg/Kg			09/02/22 10:41	1

Client Sample ID: PH08

Lab Sample ID: 890-2852-4
Matrix: Solid
Date Collected: 08/24/22 13:15
Date Received: 08/25/22 15:54
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 15:51	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 15:51	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 15:51	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 15:51	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 15:51	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*174*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 15:51*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*09/06/22 09:16*	*09/06/22 15:51*	*1*

Method: 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			09/07/22 17:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 14:46	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/30/22 09:23	08/31/22 14:46	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/30/22 09:23	08/31/22 14:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:46*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/30/22 09:23*	*08/31/22 14:46*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH08

Lab Sample ID: 890-2852-4
Matrix: Solid
Date Collected: 08/24/22 13:15
Date Received: 08/25/22 15:54
Sample Depth: 1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	123		5.05		mg/Kg			09/02/22 10:51	1

Client Sample ID: PH09

Lab Sample ID: 890-2852-5
Matrix: Solid
Date Collected: 08/24/22 13:20
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 16:17	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 16:17	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/06/22 09:16	09/06/22 16:17	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 16:17	1
o-Xylene	<0.00201	U *+	0.00201		mg/Kg		09/06/22 09:16	09/06/22 16:17	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/06/22 09:16	09/06/22 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*175*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 16:17*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*09/06/22 09:16*	*09/06/22 16:17*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 15:08	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 15:08	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*08/30/22 09:23*	*08/31/22 15:08*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/30/22 09:23*	*08/31/22 15:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.9		5.01		mg/Kg			09/02/22 11:00	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH09

Date Collected: 08/24/22 13:25
Date Received: 08/25/22 15:54
Sample Depth: 1

Lab Sample ID: 890-2852-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 16:42	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 16:42	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/06/22 09:16	09/06/22 16:42	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 16:42	1
o-Xylene	<0.00199	U *+	0.00199		mg/Kg		09/06/22 09:16	09/06/22 16:42	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/06/22 09:16	09/06/22 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*175*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 16:42*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*09/06/22 09:16*	*09/06/22 16:42*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 15:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 15:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*08/30/22 09:23*	*08/31/22 15:51*	*1*
o-Terphenyl	*99*		*70 - 130*	*08/30/22 09:23*	*08/31/22 15:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.0**		5.05		mg/Kg			09/02/22 11:27	1

Client Sample ID: PH10

Date Collected: 08/24/22 13:30
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Lab Sample ID: 890-2852-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 17:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 17:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 17:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 17:08	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 17:08	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 17:08*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH10

Lab Sample ID: 890-2852-7
Matrix: Solid
Date Collected: 08/24/22 13:30
Date Received: 08/25/22 15:54
Sample Depth: 0.5

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:16*	*09/06/22 17:08*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 16:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 16:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:12*	*1*
o-Terphenyl	*98*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**138**		5.02		mg/Kg			09/02/22 11:37	1

Client Sample ID: PH10

Lab Sample ID: 890-2852-8
Matrix: Solid
Date Collected: 08/24/22 13:35
Date Received: 08/25/22 15:54
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:33	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:33	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:33	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		09/06/22 09:16	09/06/22 17:33	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:33	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		09/06/22 09:16	09/06/22 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*163*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 17:33*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/06/22 09:16*	*09/06/22 17:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH10

Lab Sample ID: 890-2852-8
Matrix: Solid
Date Collected: 08/24/22 13:35
Date Received: 08/25/22 15:54
Sample Depth: 1

Method: 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		08/30/22 09:23	08/31/22 16:34	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 16:34	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 16:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:34*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:34*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.1**		5.00		mg/Kg			09/02/22 12:04	1

Client Sample ID: PH11

Lab Sample ID: 890-2852-9
Matrix: Solid
Date Collected: 08/24/22 13:40
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:59	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:59	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:59	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/06/22 09:16	09/06/22 17:59	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		09/06/22 09:16	09/06/22 17:59	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/06/22 09:16	09/06/22 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 17:59*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*09/06/22 09:16*	*09/06/22 17:59*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			09/07/22 17:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 16:56	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/30/22 09:23	08/31/22 16:56	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/30/22 09:23	08/31/22 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:56*	*1*
o-Terphenyl	*97*		*70 - 130*	*08/30/22 09:23*	*08/31/22 16:56*	*1*

Client Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH11
Date Collected: 08/24/22 13:40
Date Received: 08/25/22 15:54
Sample Depth: 0.5

Lab Sample ID: 890-2852-9
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		4.99		mg/Kg			09/02/22 13:48	1

Client Sample ID: PH11
Date Collected: 08/24/22 13:45
Date Received: 08/25/22 15:54
Sample Depth: 1

Lab Sample ID: 890-2852-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 18:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 18:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 18:24	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 18:24	1
o-Xylene	<0.00200	U *+	0.00200		mg/Kg		09/06/22 09:16	09/06/22 18:24	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/06/22 09:16	09/06/22 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*177*	*S1+*	*70 - 130*	*09/06/22 09:16*	*09/06/22 18:24*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/06/22 09:16*	*09/06/22 18:24*	*1*

Method: 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			09/07/22 17:11	1

Method: 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			09/01/22 10:25	1

Method: 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		08/30/22 09:23	08/31/22 17:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 17:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/30/22 09:23	08/31/22 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*08/30/22 09:23*	*08/31/22 17:17*	*1*
o-Terphenyl	*91*		*70 - 130*	*08/30/22 09:23*	*08/31/22 17:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	301		4.99		mg/Kg			09/02/22 14:07	1

Surrogate Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2852-1	PH07	168 S1+	80
890-2852-1 MS	PH07	170 S1+	109
890-2852-1 MSD	PH07	179 S1+	108
890-2852-2	PH07	167 S1+	119
890-2852-3	PH08	162 S1+	116
890-2852-4	PH08	174 S1+	117
890-2852-5	PH09	175 S1+	114
890-2852-6	PH09	175 S1+	106
890-2852-7	PH10	170 S1+	108
890-2852-8	PH10	163 S1+	100
890-2852-9	PH11	177 S1+	111
890-2852-10	PH11	177 S1+	108
LCS 880-33803/1-A	Lab Control Sample	160 S1+	107
LCSD 880-33803/2-A	Lab Control Sample Dup	160 S1+	106
MB 880-33803/5-A	Method Blank	120	71

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)
890-2851-A-1-B MS	Matrix Spike	95	91
890-2851-A-1-C MSD	Matrix Spike Duplicate	97	81
890-2852-1	PH07	120	113
890-2852-2	PH07	98	94
890-2852-3	PH08	117	111
890-2852-4	PH08	105	103
890-2852-5	PH09	116	112
890-2852-6	PH09	102	99
890-2852-7	PH10	100	98
890-2852-8	PH10	99	97
890-2852-9	PH11	99	97
890-2852-10	PH11	94	91
LCS 880-33313/2-A	Lab Control Sample	134 S1+	145 S1+
LCSD 880-33313/3-A	Lab Control Sample Dup	135 S1+	148 S1+
MB 880-33313/1-A	Method Blank	119	118

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33803/5-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33803

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/06/22 09:16	09/06/22 14:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/06/22 09:16	09/06/22 14:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*09/06/22 09:16*	*09/06/22 14:07*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*09/06/22 09:16*	*09/06/22 14:07*	*1*

Lab Sample ID: LCS 880-33803/1-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33803

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1197		mg/Kg		120	70 - 130		
Toluene			0.100	0.1219		mg/Kg		122	70 - 130		
Ethylbenzene			0.100	0.1218		mg/Kg		122	70 - 130		
m-Xylene & p-Xylene			0.200	0.2454		mg/Kg		123	70 - 130		
o-Xylene			0.100	0.1364	*+	mg/Kg		136	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: LCSD 880-33803/2-A
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1196		mg/Kg		120	70 - 130	0	35
Toluene			0.100	0.1233		mg/Kg		123	70 - 130	1	35
Ethylbenzene			0.100	0.1187		mg/Kg		119	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2376		mg/Kg		119	70 - 130	3	35
o-Xylene			0.100	0.1333	*+	mg/Kg		133	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*160*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-2852-1 MS
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: PH07
Prep Type: Total/NA
Prep Batch: 33803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U	0.101	0.1228		mg/Kg		122	70 - 130		
Toluene	<0.00202	U F1	0.101	0.1236		mg/Kg		122	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

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

Lab Sample ID: 890-2852-1 MS
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: PH07
Prep Type: Total/NA
Prep Batch: 33803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1172		mg/Kg		116	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2338		mg/Kg		116	70 - 130
o-Xylene	<0.00202	U *+ F1	0.101	0.1293		mg/Kg		128	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*170*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 890-2852-1 MSD
Matrix: Solid
Analysis Batch: 33799

Client Sample ID: PH07
Prep Type: Total/NA
Prep Batch: 33803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0994	0.1293		mg/Kg		130	70 - 130	5	35
Toluene	<0.00202	U F1	0.0994	0.1318	F1	mg/Kg		133	70 - 130	6	35
Ethylbenzene	<0.00202	U	0.0994	0.1250		mg/Kg		126	70 - 130	6	35
m-Xylene & p-Xylene	<0.00403	U	0.199	0.2508		mg/Kg		126	70 - 130	7	35
o-Xylene	<0.00202	U *+ F1	0.0994	0.1402	F1	mg/Kg		141	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*179*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-33313/1-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33313

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		08/30/22 09:23	08/31/22 10:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 10:04	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/30/22 09:23	08/31/22 10:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*08/30/22 09:23*	*08/31/22 10:04*	*1*
o-Terphenyl	*118*		*70 - 130*	*08/30/22 09:23*	*08/31/22 10:04*	*1*

Lab Sample ID: LCS 880-33313/2-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	874.8		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	903.2		mg/Kg		90	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

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

Lab Sample ID: LCS 880-33313/2-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33313

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	134	S1+	70 - 130
o-Terphenyl	145	S1+	70 - 130

Lab Sample ID: LCSD 880-33313/3-A
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33313

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	863.6		mg/Kg		86	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	932.4		mg/Kg		93	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	135	S1+	70 - 130
o-Terphenyl	148	S1+	70 - 130

Lab Sample ID: 890-2851-A-1-B MS
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	999	1040		mg/Kg		104	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1146		mg/Kg		115	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 890-2851-A-1-C MSD
Matrix: Solid
Analysis Batch: 33403

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 33313

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F2	998	835.6	F2	mg/Kg		84	70 - 130	22	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1020		mg/Kg		102	70 - 130	12	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	81		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-33415/1-A
Matrix: Solid
Analysis Batch: 33544

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			09/02/22 07:18	1

Lab Sample ID: LCS 880-33415/2-A
Matrix: Solid
Analysis Batch: 33544

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	251.7		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-33415/3-A
Matrix: Solid
Analysis Batch: 33544

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	251.8		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-2852-5 MS
Matrix: Solid
Analysis Batch: 33544

Client Sample ID: PH09
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	84.9		253	360.8		mg/Kg		109	90 - 110		

Lab Sample ID: 890-2852-5 MSD
Matrix: Solid
Analysis Batch: 33544

Client Sample ID: PH09
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	84.9		253	359.7		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

GC VOA

Analysis Batch: 33799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	8021B	33803
890-2852-2	PH07	Total/NA	Solid	8021B	33803
890-2852-3	PH08	Total/NA	Solid	8021B	33803
890-2852-4	PH08	Total/NA	Solid	8021B	33803
890-2852-5	PH09	Total/NA	Solid	8021B	33803
890-2852-6	PH09	Total/NA	Solid	8021B	33803
890-2852-7	PH10	Total/NA	Solid	8021B	33803
890-2852-8	PH10	Total/NA	Solid	8021B	33803
890-2852-9	PH11	Total/NA	Solid	8021B	33803
890-2852-10	PH11	Total/NA	Solid	8021B	33803
MB 880-33803/5-A	Method Blank	Total/NA	Solid	8021B	33803
LCS 880-33803/1-A	Lab Control Sample	Total/NA	Solid	8021B	33803
LCSD 880-33803/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33803
890-2852-1 MS	PH07	Total/NA	Solid	8021B	33803
890-2852-1 MSD	PH07	Total/NA	Solid	8021B	33803

Prep Batch: 33803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	5035	
890-2852-2	PH07	Total/NA	Solid	5035	
890-2852-3	PH08	Total/NA	Solid	5035	
890-2852-4	PH08	Total/NA	Solid	5035	
890-2852-5	PH09	Total/NA	Solid	5035	
890-2852-6	PH09	Total/NA	Solid	5035	
890-2852-7	PH10	Total/NA	Solid	5035	
890-2852-8	PH10	Total/NA	Solid	5035	
890-2852-9	PH11	Total/NA	Solid	5035	
890-2852-10	PH11	Total/NA	Solid	5035	
MB 880-33803/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33803/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33803/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2852-1 MS	PH07	Total/NA	Solid	5035	
890-2852-1 MSD	PH07	Total/NA	Solid	5035	

Analysis Batch: 33956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	Total BTEX	
890-2852-2	PH07	Total/NA	Solid	Total BTEX	
890-2852-3	PH08	Total/NA	Solid	Total BTEX	
890-2852-4	PH08	Total/NA	Solid	Total BTEX	
890-2852-5	PH09	Total/NA	Solid	Total BTEX	
890-2852-6	PH09	Total/NA	Solid	Total BTEX	
890-2852-7	PH10	Total/NA	Solid	Total BTEX	
890-2852-8	PH10	Total/NA	Solid	Total BTEX	
890-2852-9	PH11	Total/NA	Solid	Total BTEX	
890-2852-10	PH11	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

GC Semi VOA

Prep Batch: 33313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	8015NM Prep	
890-2852-2	PH07	Total/NA	Solid	8015NM Prep	
890-2852-3	PH08	Total/NA	Solid	8015NM Prep	
890-2852-4	PH08	Total/NA	Solid	8015NM Prep	
890-2852-5	PH09	Total/NA	Solid	8015NM Prep	
890-2852-6	PH09	Total/NA	Solid	8015NM Prep	
890-2852-7	PH10	Total/NA	Solid	8015NM Prep	
890-2852-8	PH10	Total/NA	Solid	8015NM Prep	
890-2852-9	PH11	Total/NA	Solid	8015NM Prep	
890-2852-10	PH11	Total/NA	Solid	8015NM Prep	
MB 880-33313/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-33313/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-33313/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2851-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2851-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 33403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	8015B NM	33313
890-2852-2	PH07	Total/NA	Solid	8015B NM	33313
890-2852-3	PH08	Total/NA	Solid	8015B NM	33313
890-2852-4	PH08	Total/NA	Solid	8015B NM	33313
890-2852-5	PH09	Total/NA	Solid	8015B NM	33313
890-2852-6	PH09	Total/NA	Solid	8015B NM	33313
890-2852-7	PH10	Total/NA	Solid	8015B NM	33313
890-2852-8	PH10	Total/NA	Solid	8015B NM	33313
890-2852-9	PH11	Total/NA	Solid	8015B NM	33313
890-2852-10	PH11	Total/NA	Solid	8015B NM	33313
MB 880-33313/1-A	Method Blank	Total/NA	Solid	8015B NM	33313
LCS 880-33313/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	33313
LCSD 880-33313/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	33313
890-2851-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	33313
890-2851-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	33313

Analysis Batch: 33535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Total/NA	Solid	8015 NM	
890-2852-2	PH07	Total/NA	Solid	8015 NM	
890-2852-3	PH08	Total/NA	Solid	8015 NM	
890-2852-4	PH08	Total/NA	Solid	8015 NM	
890-2852-5	PH09	Total/NA	Solid	8015 NM	
890-2852-6	PH09	Total/NA	Solid	8015 NM	
890-2852-7	PH10	Total/NA	Solid	8015 NM	
890-2852-8	PH10	Total/NA	Solid	8015 NM	
890-2852-9	PH11	Total/NA	Solid	8015 NM	
890-2852-10	PH11	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

HPLC/IC

Leach Batch: 33415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Soluble	Solid	DI Leach	
890-2852-2	PH07	Soluble	Solid	DI Leach	
890-2852-3	PH08	Soluble	Solid	DI Leach	
890-2852-4	PH08	Soluble	Solid	DI Leach	
890-2852-5	PH09	Soluble	Solid	DI Leach	
890-2852-6	PH09	Soluble	Solid	DI Leach	
890-2852-7	PH10	Soluble	Solid	DI Leach	
890-2852-8	PH10	Soluble	Solid	DI Leach	
890-2852-9	PH11	Soluble	Solid	DI Leach	
890-2852-10	PH11	Soluble	Solid	DI Leach	
MB 880-33415/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2852-5 MS	PH09	Soluble	Solid	DI Leach	
890-2852-5 MSD	PH09	Soluble	Solid	DI Leach	

Analysis Batch: 33544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2852-1	PH07	Soluble	Solid	300.0	33415
890-2852-2	PH07	Soluble	Solid	300.0	33415
890-2852-3	PH08	Soluble	Solid	300.0	33415
890-2852-4	PH08	Soluble	Solid	300.0	33415
890-2852-5	PH09	Soluble	Solid	300.0	33415
890-2852-6	PH09	Soluble	Solid	300.0	33415
890-2852-7	PH10	Soluble	Solid	300.0	33415
890-2852-8	PH10	Soluble	Solid	300.0	33415
890-2852-9	PH11	Soluble	Solid	300.0	33415
890-2852-10	PH11	Soluble	Solid	300.0	33415
MB 880-33415/1-A	Method Blank	Soluble	Solid	300.0	33415
LCS 880-33415/2-A	Lab Control Sample	Soluble	Solid	300.0	33415
LCSD 880-33415/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	33415
890-2852-5 MS	PH09	Soluble	Solid	300.0	33415
890-2852-5 MSD	PH09	Soluble	Solid	300.0	33415

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH07

Date Collected: 08/24/22 13:00
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-1
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			4.96 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 14:35	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 13:41	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 10:23	CH	EET MID

Client Sample ID: PH07

Date Collected: 08/24/22 13:05
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-2
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			5.05 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 15:01	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 14:02	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 10:32	CH	EET MID

Client Sample ID: PH08

Date Collected: 08/24/22 13:10
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 15:26	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 14:24	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 10:41	CH	EET MID

Client Sample ID: PH08

Date Collected: 08/24/22 13:15
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-4
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			5.01 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 15:51	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH08

Lab Sample ID: 890-2852-4
Matrix: Solid
Date Collected: 08/24/22 13:15
Date Received: 08/25/22 15:54

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			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 14:46	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 10:51	CH	EET MID

Client Sample ID: PH09

Lab Sample ID: 890-2852-5
Matrix: Solid
Date Collected: 08/24/22 13:20
Date Received: 08/25/22 15:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 16:17	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 15:08	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 11:00	CH	EET MID

Client Sample ID: PH09

Lab Sample ID: 890-2852-6
Matrix: Solid
Date Collected: 08/24/22 13:25
Date Received: 08/25/22 15:54

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	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 16:42	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 15:51	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 11:27	CH	EET MID

Client Sample ID: PH10

Lab Sample ID: 890-2852-7
Matrix: Solid
Date Collected: 08/24/22 13:30
Date Received: 08/25/22 15:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 17:08	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 16:12	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Client Sample ID: PH10
Date Collected: 08/24/22 13:30
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 11:37	CH	EET MID

Client Sample ID: PH10
Date Collected: 08/24/22 13:35
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-8
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			4.95 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 17:33	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 16:34	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 12:04	CH	EET MID

Client Sample ID: PH11
Date Collected: 08/24/22 13:40
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 17:59	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 16:56	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 13:48	CH	EET MID

Client Sample ID: PH11
Date Collected: 08/24/22 13:45
Date Received: 08/25/22 15:54

Lab Sample ID: 890-2852-10
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	33803	09/06/22 09:16	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33799	09/06/22 18:24	MR	EET MID
Total/NA	Analysis	Total BTEX		1			33956	09/07/22 17:11	SM	EET MID
Total/NA	Analysis	8015 NM		1			33535	09/01/22 10:25	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	33313	08/30/22 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	33403	08/31/22 17:17	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	33415	08/31/22 09:35	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	33544	09/02/22 14:07	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

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: RDX 17-21

Job ID: 890-2852-1
SDG: 03A1987049

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2852-1	PH07	Solid	08/24/22 13:00	08/25/22 15:54	0.5
890-2852-2	PH07	Solid	08/24/22 13:05	08/25/22 15:54	1
890-2852-3	PH08	Solid	08/24/22 13:10	08/25/22 15:54	0.5
890-2852-4	PH08	Solid	08/24/22 13:15	08/25/22 15:54	1
890-2852-5	PH09	Solid	08/24/22 13:20	08/25/22 15:54	0.5
890-2852-6	PH09	Solid	08/24/22 13:25	08/25/22 15:54	1
890-2852-7	PH10	Solid	08/24/22 13:30	08/25/22 15:54	0.5
890-2852-8	PH10	Solid	08/24/22 13:35	08/25/22 15:54	1
890-2852-9	PH11	Solid	08/24/22 13:40	08/25/22 15:54	0.5
890-2852-10	PH11	Solid	08/24/22 13:45	08/25/22 15:54	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:	Joseph Hernandez	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	Devon
Address:	3122 National Parks Hwy.	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	2817022329	Email:	jhernandez@ensolum.com

Work Order Comments

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

Project Name:	RDX 17-21	Turn Around	☑ Routine ☐ Rush
Project Number:	03A1987049	Due Date:	
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	LC		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.2
Total Containers:		Corrected Temperature:	4.0

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)
PH07	S	8/24/22	1300	0.5'	Grab/	1		x	x	x
PH07	S	8/24/22	1305	1'	Grab/	1		x	x	x
PH08	S	8/24/22	1310	0.5'	Grab/	1		x	x	x
PH08	S	8/24/22	1315	1'	Grab/	1		x	x	x
PH09	S	8/24/22	1320	0.5'	Grab/	1		x	x	x
PH09	S	8/24/22	1325	1'	Grab/	1		x	x	x
PH10	S	8/24/22	1330	0.5'	Grab/	1		x	x	x
Ph10	S	8/24/22	1335	1'	Grab/	1		x	x	x
PH11	S	8/24/22	1340	0.5'	Grab/	1		x	x	x
PH11	S	8/24/22	1345	1'	Grab/	1		x	x	x

Parameters

890-2852 Chain of Custody

Sample Comments

Incident Number: NAB1725454826
Cost Center: 1061118101

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		8.25.22 1534			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2852-1
SDG Number: 03A1987049

Login Number: 2852
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2852-1
SDG Number: 03A1987049

Login Number: 2852
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/29/22 09:19 AM

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

ENSOLUM

APPENDIX F

Email Correspondence

From: Joseph Hernandez
To: ocd.enviro@state.nm.us; "CFO_Spill, BLM_NM"
Cc: Raley, Jim; Ben Belill
Subject: WPX Site Sampling Activity Update (8/22-8/27/22)
Date: Sunday, August 21, 2022 5:52:30 PM
Attachments: image001.png
image002.png
image003.png
image004.png

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between August 22 through August 27, 2022:

Site: RDX 17-20
API: 30-015-41381
Incident Number: NAB1422341439, NAB1706053151

Site: RDX 17-21
API: 30-015-41088
Incident Number: NAB1725454826

Site: RDX Federal 21 #044
API: 30-015-41193
Incident Number: nAPP2115533694

Joseph S. Hernandez
Senior Geologist
281-702-2329
Ensolum, LLC

Erick Herrera

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, October 3, 2022 10:50 AM
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)

[**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 Herrera

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, October 24, 2022 12:17 PM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD
Subject: FW: [EXTERNAL] WPX Site Sampling Activity Update (10/24-10/28)

[**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, not 48-hours. 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.

Thanks,
Jennifer Nobui

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Friday, October 21, 2022 4:00 PM
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 (10/24-10/28)

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)

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

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QUESTIONS

Action 314854

QUESTIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1725454826**
Incident Name	**NAB1725454826 RDX FEDERAL 17 #021 @ 30-015-41088**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-41088] RDX FEDERAL 17 #021**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	RDX FEDERAL 17 #021
Date Release Discovered	08/22/2017
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Equipment Failure | Other (Specify) | Crude Oil | Released: 2 BBL | Recovered: 0 BBL | Lost: 2 BBL.
Produced Water Released (bbls) Details	Cause: Equipment Failure | Other (Specify) | Produced Water | Released: 13 BBL | Recovered: 10 BBL | Lost: 3 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/15/2024

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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Greater than 5 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	1470
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	0
GRO+DRO (EPA SW-846 Method 8015M)	0
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	10/01/2022
On what date will (or did) the final sampling or liner inspection occur	10/06/2022
On what date will (or was) the remediation complete(d)	10/06/2022
What is the estimated surface area (in square feet) that will be reclaimed	2427
What is the estimated volume (in cubic yards) that will be reclaimed	350
What is the estimated surface area (in square feet) that will be remediated	2427
What is the estimated volume (in cubic yards) that will be remediated	350
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	*Not answered.*
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	Yes
In which state is the disposal taking place	Texas
What is the name of the out-of-state facility	R360 Red Bluff
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/15/2024
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

District I
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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**314908**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**10/24/2024**
What was the (estimated) number of samples that were to be gathered	**23**
What was the sampling surface area in square feet	**2427**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	2427
What was the total volume (cubic yards) remediated	350
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	2427
What was the total volume (in cubic yards) reclaimed	350
Summarize any additional remediation activities not included by answers (above)	Remediation complete

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

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

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvn.com Date: 02/15/2024

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QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 314854

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 314854
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	Remediation Closure approved. A complete and accurate reclamation report will need to be submitted. The reclamation report will need to address all the requirements of 19.15.29.13 NMAC including pictures of the reclaimed area, and a proposed revegetation plan. After the approval of a reclamation plan, a revegetation report will need to be submitted, including pictures of the revegetated areas, once the site meets the requirements for vegetation cover found in 19.15.29.13 D.(3) NMAC. Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment.	2/15/2024
amaxwell	• The reclamation report will need to address all the requirements of 19.15.29.13 NMAC including an executive summary of the reclamation activities; scaled site map including sampling locations; analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing if the backfill is coming from a rancher's pit or other local source AND/OR proof from the landfill/landfarm that their backfill is non-waste containing; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	2/15/2024