Page 1 of 274 NAPP2219649599 Incident ID District RP Facility ID Application ID

Remediation Plan

Remediation Plan Checklist: Each of the following items must be in	cluded in the plan.		
 □ Detailed description of proposed remediation technique □ Scaled sitemap with GPS coordinates showing delineation points □ Estimated volume of material to be remediated □ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC □ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) 			
<u>Deferral Requests Only</u> : Each of the following items must be confirm	med as part of any request for deferral of remediation.		
Contamination must be in areas immediately under or around produce deconstruction.	action equipment where remediation could cause a major facility		
■ Extents of contamination must be fully delineated.			
Contamination does not cause an imminent risk to human health, the	e environment, or groundwater.		
Signature:	of a C-141 report by the OCD does not relieve the operator of d remediate contamination that pose a threat to groundwater, eptance of a C-141 report does not relieve the operator of		
OCD Only			
Jocelyn Harimon Received by:	01/06/2023 Pate:		
☐ Approved ☐ Approved with Attached Conditions of App	proval		
Signature: Robert Hamlet Da	te: 5/9/2023		

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

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	NAPP2219649599
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible	Party XTC) Energy		OGRID 5	5380	
Contact Nam				Contact Te	elephone 575-200-0	729
Contact ema	il garrett.gre	en@exxonmobil.c	om	Incident #	(assigned by OCD)	
			reet, Carlsbad, Nev	w Mexico, 88220		
				of Release So	nurce	
32.3	38042		Location		-103.88429	
Latitude			(NAD 83 in deci	Longitude _ imal degrees to 5 decim		
Site Name						
Date Release	James Ranch			API# (if app	Production Well	
Date Release	Discovered	07/11/2022		AF1# (ij app.	исавіе)	
Unit Letter	Section	Township	Range	Coun	ty	
G	21	22S	30E	Eddy	y	
x Crude Oil	Materia		l that apply and attach of	Volume of I	Release justification for the volu Volume Recovere	ad (InInIa)
➤ Produced		Volume Release	4.02		Volume Recovered	1.411
Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?		` /	☐ Yes ☐ No	7.50		
Condensate Volume Released (bbls)			Volume Recovered (bbls)			
□ Natural Gas Volume Released (Mcf) □ Other (describe) Volume/Weight Released (provide units)		• • •	Volume Recovered (Mcf)			
U Otner (de	scribe)	Volume/Weight Released (provide units)		Volume/Weight Recovered (provide units)		
Cause of Rel	ease Corrosi contrac	ion caused a 4" ste tor has been retain	el flowline to relea ed for remediation	se fluids to ground purposes.	. All free fluids we	ere recovered. A third-party

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Incident ID	NAPP2219649599
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Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the respon	sible party	y consider this a major release?
release as defined by 19.15.29.7(A) NMAC?	N/A		
` ,			
☐ Yes 🗷 No			
TOTAL TOTAL		0.111	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
If YES, was immediate no N/A	otice given to the OCD? By whom? To wh	om? Whe	en and by what means (phone, email, etc)?
N/A			
	Initial Re	esponse	•
The responsible	party must undertake the following actions immediately	v unless they	could create a safety hazard that would result in injury
➤ The source of the rele	ease has been stopped.		
▼ The impacted area ha	as been secured to protect human health and	the enviro	nment.
Released materials ha	ave been contained via the use of berms or d	ikes, abso	rbent pads, or other containment devices.
∡ All free liquids and re	ecoverable materials have been removed and	d managed	appropriately.
If all the actions described	d above have <u>not</u> been undertaken, explain v	vhy:	
NA			
has begun, please attach	a narrative of actions to date. If remedial of	efforts hav	immediately after discovery of a release. If remediation we been successfully completed or if the release occurred the all information needed for closure evaluation.
			knowledge and understand that pursuant to OCD rules and
			d perform corrective actions for releases which may endanger of relieve the operator of liability should their operations have
			lwater, surface water, human health or the environment. In ty for compliance with any other federal, state, or local laws
and/or regulations.	if a C-141 report does not reneve the operator of	responsioni	ty for comphance with any other rederar, state, or local laws
Printed Name: Garrett G	reen	Title: S	SSHE Coordinator
Signature:	M Sun	_	07/15/2022
email: garrett.green@exx	konmobil.com		ne: 575-200-0729
Cinan.		reichiio	nc
OCD Only			
Received by: Jocelyn	Harimon	Date:	07/15/2022

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Incident ID	NAPP2219649599	
District RP		
Facility ID		
Application ID		

Site Assessment/Characterization

this information must be provided to the appropriate district office no taler than 90 days after the release discovery date.				
What is the shallowest depth to groundwater beneath the area affected by the release?	> 100 (ft bgs)			
Did this release impact groundwater or surface water?	☐ Yes ☒ No			
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	X Yes ☐ No			
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes 🏻 No			
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No			
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes 🏻 No			
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No			
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes 🏻 No			
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No			
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No			
Are the lateral extents of the release overlying an unstable area such as karst geology?	X Yes ☐ No			
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No			
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ No			
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.				
Characterization Depart Checklist. Fach of the following items must be included in the venew				

•
Characterization Report Checklist: Each of the following items must be included in the report.
Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☐ Field data
Data table of soil contaminant concentration data
Depth to water determination
Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
Boring or excavation logs
Photographs including date and GIS information
Topographic/Aerial maps
Laboratory data including chain of custody

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

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.			
Printed Name: _Garrett Green	Title: _Environmental Coordinator		
Signature: Satt Sur	Date:01/05/2023		
email: _garrett.green@exxonmobil.com	Telephone:575-200-0729		
OCD Only Received by: Jocelyn Harimon	Date: 01/06/2023		

	Page 6 of 27	4
Incident ID	NAPP2219649599	
District RP		
Facility ID		
Application ID		

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	included in the plan.
☐ Detailed description of proposed remediation technique ☐ Scaled sitemap with GPS coordinates showing delineation points ☐ Estimated volume of material to be remediated ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.1 ☐ Proposed schedule for remediation (note if remediation plan times)	2(C)(4) NMAC
<u>Deferral Requests Only</u> : Each of the following items must be con	firmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around predeconstruction.	oduction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health	, the environment, or groundwater.
I hereby certify that the information given above is true and complet rules and regulations all operators are required to report and/or file c which may endanger public health or the environment. The acceptant liability should their operations have failed to adequately investigate surface water, human health or the environment. In addition, OCD a responsibility for compliance with any other federal, state, or local limited Name:Garrett Green	ertain release notifications and perform corrective actions for releases nee of a C-141 report by the OCD does not relieve the operator of and remediate contamination that pose a threat to groundwater, acceptance of a C-141 report does not relieve the operator of
email: garrett.green@exxonmobil.com	Telephone: 575-200-0729
emangarrett.green@exxonmoon.com	1 elephone373-200-0729
OCD Only Jocelyn Harimon Received by:	01/06/2023 Date:
☐ Approved ☐ Approved with Attached Conditions of A	Approval
Signature:	Date:



January 5, 2023

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

Re: Deferral Request

James Ranch Unit 163H

Incident Number NAPP2219649599

Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Deferral Request* to document site assessment, delineaition, excavation, and soil sampling activities at the James Ranch Unit 163H (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of crude oil and produced water. Based on field observations and soil sample laboratory analytical results, XTO is submitting this *Deferral Request*, describing site assessment, delineation, and excavation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2219649599 until the Site is reconstructed, and/or the well pad is abandoned.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit G, Section 21, Township 22 South, Range 30 East, in Eddy County, New Mexico (32.38042°N, 103.88429°W) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On July 11, 2022, corrosion of a steel flowline resulted in the release of approximately 4.82 barrels (bbls) of crude oil and 14.45 bbls of produced water onto the surface of the well pad and around active pipelines. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; 2.5 bbls of crude oil and 7.5 bbls of produced water were recovered. XTO submitted a Release Notification Form C-141 (Form C-141) on July 15, 2022. The release was assigned Incident Number NAPP2219649599.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer well C-1916, located approximately 480

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 3122 National Park Highway | Carlsbad, NM 882200 | ensolum.com

feet northeast of the Site. In 2013, the groundwater well was plugged due to the well existing in the path of new construction. The *Plugging Plan* was approved by the New Mexico Office of the State Engineer (NMOSE) on April 1, 2013. The *Plugging Plan* indicates the groundwater well had a reported groundwater depth of 110 feet bgs and a total depth of 188 feet bgs. Ground surface elevation at the groundwater well location is 3,161 feet above mean sea level (amsl), which is approximately 8 feet lower in elevation than the Site. The location of the well was adjusted to reflect the GPS coordinates provided on the approved *Plugging Plan*, as the previous location of the well was reflective of the approved drilling permit. All wells used for depth to groundwater determination are presented on Figure 1. The approved *Plugging Plan* is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 158 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by unstable geology (high potential karst designation area). Potential site receptors are identified on Figure 1.

Based on the existence of a nearby significant watercourse and high potential karst underlying 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 hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT ACTIVITIES

On August 10, 2022, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. Three delineation soil samples (SS01 through SS03) were collected within the release extent from a depth of approximately 0.5 feet bgs. The delineation soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® QuanTab® chloride test strips, respectively. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The delineation 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 Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celcius required for shipment and long-term storage, but are considered to have been received in acceptable condition.



DELINEATION AND EXCAVATION SOIL SAMPLING ACTIVITIES

Following laboratory analytical results from the Site assessment, Ensolum returned to the Site to oversee delineation and excavation activities. Seven potholes (PH01 through PH07) were advanced within and around the release extent by use of heavy equipment and hand auger to assess the lateral and vertical definition of the release. Potholes PH01 through PH03 were advanced in the vicinity of delineation soil samples SS01 through SS03. Potholes PH04 through PH07 were advanced to assess lateral definition of the release. Discrete delineation soil samples were collected from each pothole at a depths ranging from 0.5 feet bgs to 11 feet bgs. The delineation soil samples were field screened, handled, and submitted for analysis for the same COCs as described above. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The potholes and delineation soil sample locations are depicted on Figure 2.

Soil was excavated from in the area represented by delineation soil samples SS01/PH01 through SS03/PH03, which contained elevated TPH and chloride concentrations. Excavation activities were performed by use of heavy equipment. The excavation occurred on the well pad. To direct excavation activities, Ensolum personnel screened soil as described above.

Following removal of soil, Ensolum personnel collected 5-point composite soil samples representing up to 200 square feet from the floor and sidewalls of the excavation. 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. Composite soil samples FS01 through FS04 were collected from the floor of the excavation from depths of 2 feet bgs. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 2 feet bgs. The excavation soil samples were handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 800 square feet. A total of approximately 60 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

LABORATORY ANALYTICAL RESULTS

Delineation soil samples collected from 2 feet bgs to 7 feet bgs from within the release extent contained TPH and chloride concentrations exceeding Table I Closure Criteria. Terminal samples collected at 11 feet bgs in PH01, 7 feet bgs in PH02, and 5 feet bgs in PH03 were in compliance with Table I Closure Criteria. All samples collected from outside the release extent were in compliance with Table I Closure Criteria.

Both confirmation samples collected from the excavation sidewalls and one confirmation sample collected from the excavation floor were in compliance with Table I Closure Criteria. Three confirmation samples collected from 2 feet bgs on the excavation floor exceeded the Table I Closure Criteria for either TPH or chloride. The elevated TPH concentrations ranged from 133 mg/kg to 493 mg/kg. Chloride detected in FS04 was 760 mg/kg. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical reports are included in Appendix D. All sampling notifications to NMOCD are included in Appendix E.



DEFFERAL REQUEST

The excavation and the proposed deferral area exist in the vicinity of a previously reported release that was assigned incident number NRM1935433078 and had occurred on October 18, 2019. XTO submitted a *Deferral Request* regarding the release on July 29, 2021, and it was approved by NMOCD on October 22, 2021. The approved *Deferral Request* details an estimated 645 cubic yards of impacted soil to remain in place until final reclamation of the well pad or a major facility deconstruction due to proximity to active pipelines. The approved *Deferral Request* for incident number NRM1935433078 can be referenced on the NMOCD portal.

Ensolum was able to successfully remove a portion of impacted soil from the previously approved deferral area during this excavation. However, excavation deeper than 2 feet was not conducted, as further excavation of the soil at depth would require removing the underlying soils that are currently supporting several nearby active crude oil, produced water, and gas pipelines. XTO is requesting deferral of final remediation due to the presence of active pipelines surrounding the entire release extent. The excavated area removed impacted soil identified in delineation soil samples SS01/PH02 through SS03/PH03. Removing the additional impacted soil increases the possibility of an additional release and/or compromises health and safety of onsite XTO personnel; therefore, further excavation would require a major facility deconstruction with engineering and facility modification. The impacted soil remaining in place is delineated vertically at depths ranging from 4 feet bgs to 11 feet bgs by delineation soil samples PH01 through PH03 and delineated laterally by delineation soil samples PH04 through PH07. Based on the delineation soil sample results listed above, assuming depths ranging from 3 feet to 8 feet on the west side of the deferral area and 2 feet depth on the east side of the deferral area, and an estimated total of an 800-square foot area of the release extent, a total of approximately 120 cubic yards of TPH and chloride impacted soil remains in place with TPH as high as 493 mg/kg and chloride as high as 750 mg/kg. The proposed deferral area is depicted in Figure 3.

XTO does not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater was determined to be greater than 100 feet bgs, and the impacted soil remaining in place is limited in areal and vertical extent.

Based on the presence of active pipelines surrounding the entire release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2219649599 until final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely, **Ensolum, LLC**

Benjamin J. Belill Project Geologist Ashley ፟L. Ager, M.S., P.G.

Program Director

ashley L. ager

cc: Garrett Green, XTO Shelby Pennington, XTO



Bureau of Land Management

Appendices:

Figure 1 Site Receptor Map

Figure 2 Delineation Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Groundwater Well Plugging Plan

Appendix B Photographic Log

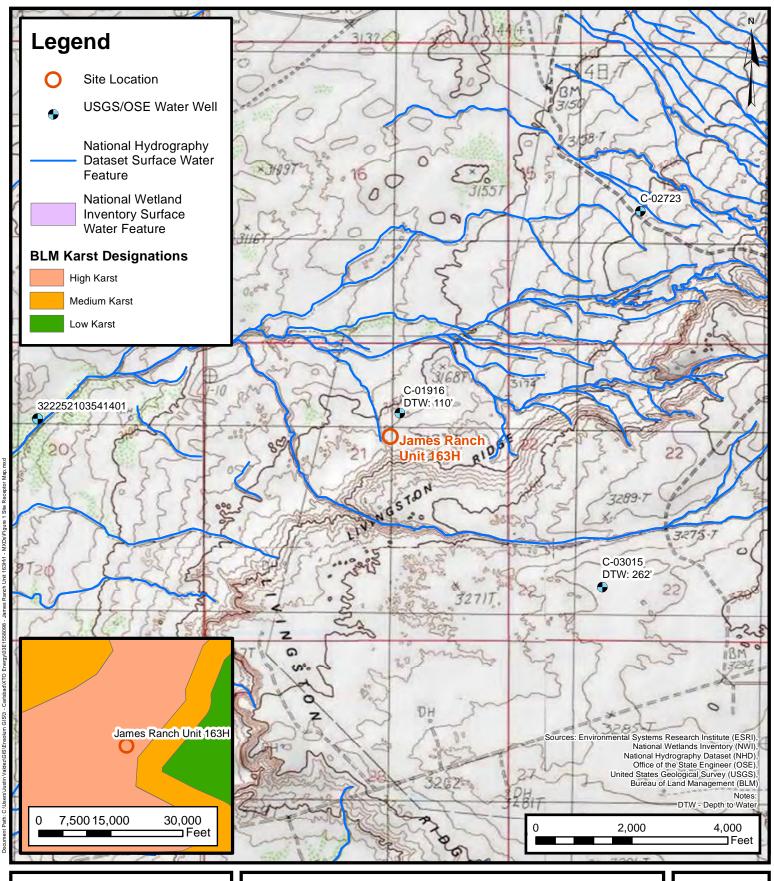
Appendix C Lithologic / Soil Sampling Logs

Appendix D Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix E NMOCD Email Notifications



Figures

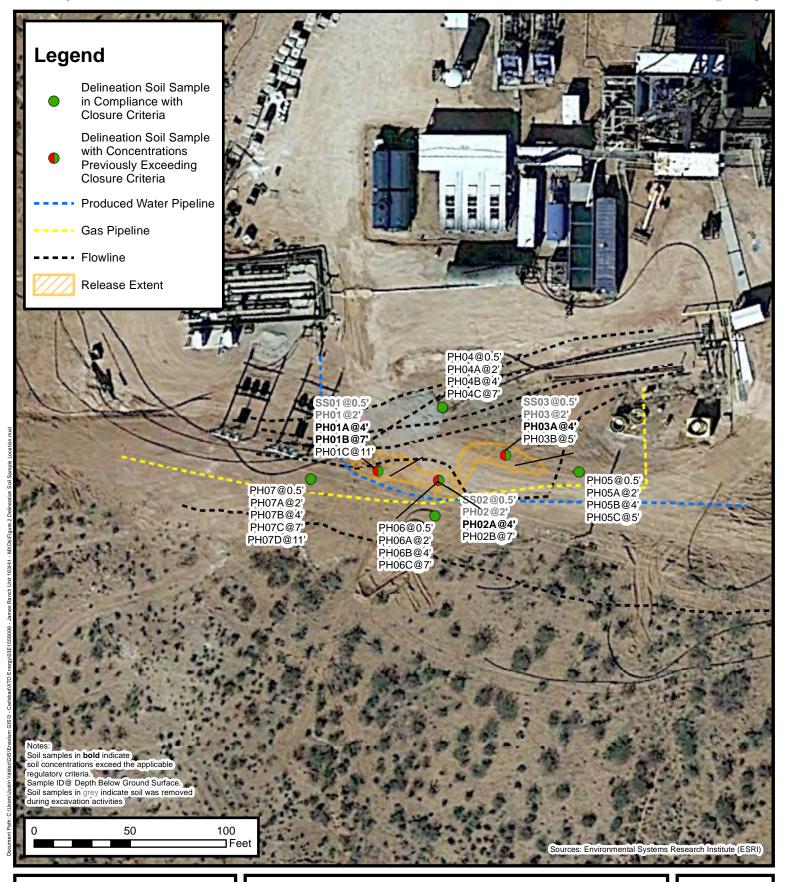




Site Receptor Map

James Ranch Unit 163H XTO Energy, Inc Unit G Sec 21 T22S R30E Eddy County, New Mexico Incident Number: nAPP2219649599 FIGURE

1





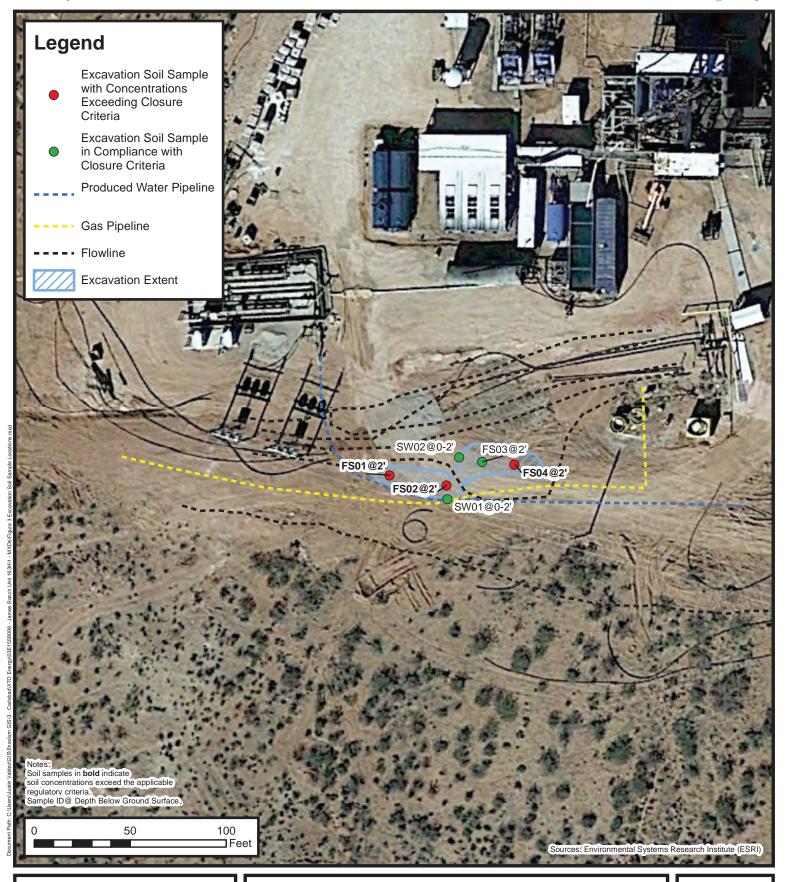
Delineation Soil Sample Locations

James Ranch Unit 163H XTO Energy, Inc Unit G Sec 21 T22S R30E Eddy County, New Mexico

Incident Number: nAPP2219649599

FIGURE

2

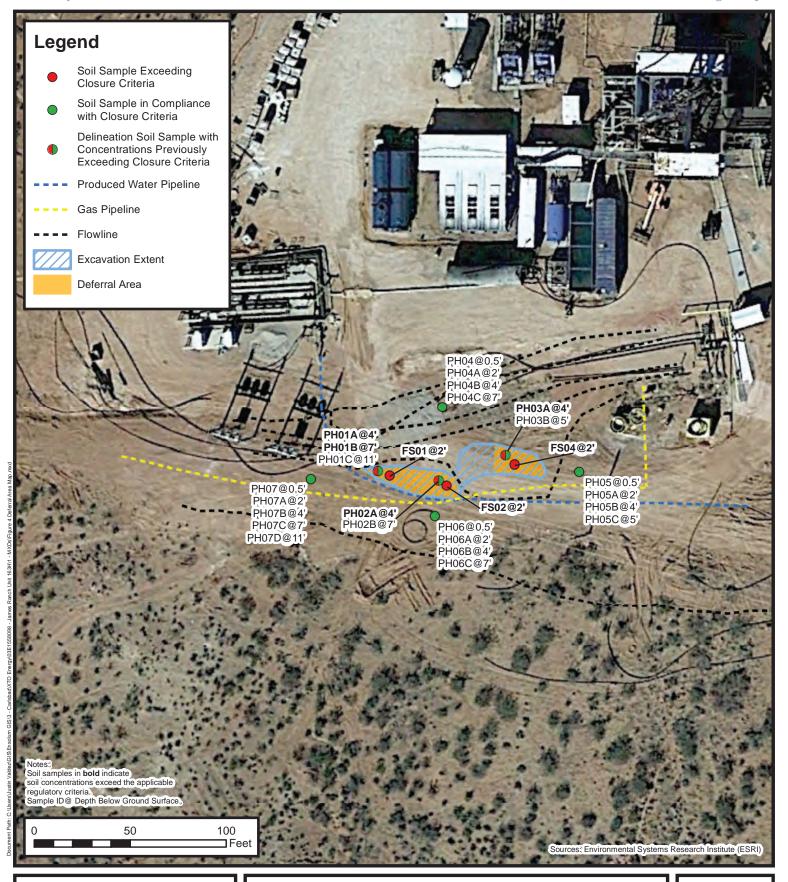




Excavation Soil Sample Locations

James Ranch Unit 163H XTO Energy, Inc Unit G Sec 21 T22S R30E Eddy County, New Mexico Incident Number: nAPP2219649599 FIGURE

3





Deferral Area Map

James Ranch Unit 163H XTO Energy, Inc Unit G Sec 21 T22S R30E Eddy County, New Mexico Incident Number: nAPP2219649599 FIGURE

4



Tables



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS James Ranch Unit 163H XTO Energy, Inc Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)	
NMOCD Table I	Closure Criteria (N	NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600	
	Delineation Soil Samples										
\$\$01	08/19/2022	0.5	<0.00199	0.196	253	9,390	<249	9,643	9,640	11,800	
PH01	10/13/2022	2	<0.00200	< 0.00401	<50.0	1,200	171	1,200	1,370	5,100	
PH01A	10/13/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	1,310	
PH01B	10/13/2022	7	< 0.00199	<0.00398	<50.0	1,380	181	1,380	1,560	3,740	
PH01C	10/13/2022	11	< 0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	126	
SS02	08/19/2022	0.5	<0.00200	0.0660	393	24,800	<250	25,193	25,200	11,600	
PH02	10/13/2022	2	<0.00199	<0.00398	<49.8	105	<49.8	105	105	2,820	
PH02A	10/13/2022	4	<0.00200	<0.00399	<49.9	526	84.0	526	610	2,010	
PH02B	10/13/2022	7	< 0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	361	
SS03	08/19/2022	0.5	<0.00200	0.165	449	29,400	<250	29,848	29,800	12,000	
PH03	10/12/2022	2	<0.00201	< 0.00402	<49.8	155	<49.8	155	155	1,290	
PH03A	10/12/2022	4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	868	
PH03B	10/12/2022	5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	424	
PH04	10/13/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	12.3	
PH04A	10/13/2022	2	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	118	
PH04B	10/13/2022	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	19.7	
PH04C	10/13/2022	7	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	15.4	
PH05	10/13/2022	0.5	<0.00198	<0.00397	<49.9	<49.9	<49.9	<49.9	<49.9	368	
PH05A	10/13/2022	2	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	199	
PH05B	10/13/2022	4	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	86.0	
PH05C	10/13/2022	5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	47.6	
PH06	10/13/2022	0.5	<0.00199	0.0271	<49.9	<49.9	<49.9	<49.9	<49.9	14.0	
PH06A	10/13/2022	2	<0.00200	0.00556	<50.0	<50.0	<50.0	<50.0	<50.0	23.6	
PH06B	10/13/2022	4	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	171	
PH06C	10/13/2022	7	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	75.2	
PH07	10/13/2022	0.5	<0.00200	0.00813	<50.0	<50.0	<50.0	<50.0	<50.0	195	
PH07A	10/13/2022	2	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	57.7	
PH07B	10/13/2022	4	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	40.8	
PH07C	10/13/2022	7	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	24.7	
PH07D	10/13/2022	11	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	85.2	

Ensolum 1 of 2



TABLE 1 **SOIL SAMPLE ANALYTICAL RESULTS** James Ranch Unit 163H XTO Energy, Inc Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I C	Closure Criteria (N	NMAC 19.15.29)	10	50	NE	NE	NE	NE	100	600
				Exca	vation Soil San	nples		<u> </u>	<u> </u>	·
SW01	10/14/2022	0-2	<0.00200	<0.00399	<49.8	54.2	<49.8	54.2	54.2	43.0
SW02	10/14/2022	0-2	<0.00201	<0.00402	<49.9	50.5	<49.9	50.5	50.5	277
FS01	10/17/2022	2	<0.00199	<0.00398	<49.8	133	<49.8	133	133	357
FS02	10/17/2022	2	<0.00200	0.3770	53.1	389	51.3	442	493	168
FS03	10/17/2022	2	<0.00199	0.0416	<49.8	70.0	<49.8	70.0	70.0	64.8
FS04	10/17/2022	2	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	750

Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation

standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

-Grey text indicates soil sample removed during excavation activities

Ensolum 2 of 2



APPENDIX A

Groundwater Well Plugging Plan



WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging.

1. FILING FEE: There is no filing fee for this form. II. GENERAL/WELLOWNERSHIP: Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: C 01916 Name of well owner: BOPCO L.P. Mailing address: P.O. Box 2760 City: Midland State: Texas Zip code: 79702 Phone number: 432-556-8730 E-mail: TASavoie@Basspet.com III. WELL DRILLER INFORMATION: Well Driller contracted to provide plugging services: Straub Corporation - Raymond Straub New Mexico Well Driller License No.: WD-1478 Expiration Date: June-2013 IV. WELL INFORMATION: Note: A copy of the existing Well Record for the well to be plugged should be attached to this plan. Latitude: 32 deg, 22 min, 54.42 sec Longitude: -103 deg, 53 min, 00.57 sec, NAD 83 1) GPS Well Location: Reason(s) for plugging well: Water well is in the path of new construction. Water quality is below 2) useable quality. Was well used for any type of monitoring program? NO ____ If yes, please use section VII of this form to detail 3) what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging. Does the well tap brackish, saline, or otherwise poor quality water? YES If yes, provide additional detail, 4) including analytical results and/or laboratory report(s): See Attachments Static water level: ~ 110 feet below land surface / feet above land surface (circle one) 5) Depth of the well: 188 feet 6)

> Well Plugging Plan Version: December, 2011 Page 1 of 5

7)	Inside diameter of innermost casing: inches.
8)	Casing material: Steel
9)	The well was constructed with:
	UNKWN an open-hole production interval, state the open interval:
	<u>UNKWN</u> a well screen or perforated pipe, state the screened interval(s):
10)	What annular interval surrounding the artesian casing of this well is cement-grouted?
11)	Was the well built with surface casing?UNKWN If yes, is the annulus surrounding the surface casing
	grouted or otherwise sealed? If yes, please describe:
12)	Has all pumping equipment and associated piping been removed from the well? yes If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.
V. DE	SCRIPTION OF PLANNED WELL PLUGGING:
pipe, a	If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional al information, such as geophysical logs, that are necessary to adequately describe the proposal.
1)	Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology
	proposed for the well: The casing will be cut off below ground surface. A tremie line will be install and a
	Portland Type II/ V Cement grout will be placed from the bottom to within 5' of the surface. A concrete cap will be
	placed from 5' to 1' and the remainder will be filled with soil.
2)	Will well head be cut-off below land surface after plugging?
VI. PL	LUGGING AND SEALING MATERIALS:
Note:	The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant
1)	For plugging intervals that employ cement grout, complete and attach Table A.
2)	For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
3)	Theoretical volume of grout required to plug the well to land surface: 20 Sacks
4)	Type of Cement proposed: See Attached Conditions of Approval C.6 5% Fullers Earth / Type II/V Cement See Attached Conditions of Approval C.6
5)	Proposed cement grout mix: 8 gallons of water per 94 pound sack of Portland cement.
6)	Will the grout be: batch-mixed and delivered to the site
	X mixed on site

Well Plugging Plan Version: December, 2011 Page 2 of 5

7)	Grout additives requested, and percent by dry weight relative to cement:Salt	water gel - The use of Fuller's
	Earth is to help with leak-off to the formation. Since the formation water is high in ch	lorides, Volclay Sodium
	Bentonite will not be acceptable. 5 LBS. of Gel per 94 LBS. of cement	
	SEE Attached Conditions of App	aroval CG.
8)	Additional notes and calculations: ((dia.² * 0.005454)*Depth)/ 1.25	5 cuft-bag
<u>VII.</u> 4	ADDITIONAL INFORMATION: List additional information below, or on separate sh	eet(s):
	Public Land Survey is Section 21, Township 22 South, Range 30 East.	()
	done baile baile is section 21, Township 22 South, Runge so bast.	
I,and an pertair	SIGNATURE: Raymond L Straub Jr., P.G. , say that I have carefully read the foregoing Welly attachments, which are a part hereof; that I am familiar with the rules and regulations oning to the plugging of wells and will comply with them, and that each and all of the state of Operations and attachments are true to the best of my knowledge and belief.	of the State Engineer ements in the Well Plugging
		03/28/2013
	CTION OF THE STATE ENGINEER: Vell Plugging Plan of Operations is:	Dastate engineer office
	Approved subject to the attached conditions. Not approved for the reasons provided on the attached letter.	offi
	Witness my hand and official seal this day of April	<u>, 13 </u>
	Scott A. Verhines, State Engine By: Lin Williams	er 40

Well Plugging Plan Version: December, 2011 Page 3 of 5

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

Interval 1 – deepest	Interval 2	Interval 3 – most shallow
		Note: if the well is non-artesian and breaches only one aquifer, use only this column.
		5 feet
	1 1	188 feet
		20 Sacks
		8 gallons
		On-site
		5% Saltwater Bentonite
		5 LBS.
		STATE ENGINEER OFFICE RIDSWELL P 1: 19
	Interval 1 — deepest	Interval 1 – deepest Interval 2

Well Plugging Plan Version: December, 2011 Page 4 of 5

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval I – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)			
Bottom of proposed sealant of grout placement (ft bgl)			
Theoretical volume of sealant required per interval (gallons)			
Proposed abandonment sealant (manufacturer and trade name)			

STATE ENGINEER OF THE POST OF

Well Plugging Plan Version: December, 2011 Page 5 of 5



STATE OF NEW MEXICO

OFFICE OF THE STATE ENGINEER ROSWELL

Scott A. Verhines, P.E.

State Engineer

DISTRICT II

1900 West Second St. Roswell, New Mexico 88201 Phone: (575) 622-6521 Fax: (575) 623-8559

April 17, 2013

BOPCO, L.P. P.O. Box 2760 Midland, Texas 79702

RE: Well Plugging Plan of Operations for C-1916

Greetings:

Enclosed is your copy of the Well Plugging Plan for the above referenced project. The attached Conditions of Approval modify your Plan in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted August 31, 2005 by the State Engineer. Should you have any questions about the Plan or Conditions of Approval please do not hesitate to contact our office.

Sincerely,

Catherine Goetz

Water Resource Specialist

District II Office of the State Engineer

Enclosures

cc: Office of the State Engineer Santa Fe

Straub Corporation

Analytical Laboratory Report for: BOPCO



Account Representative: Willis Mossman

Production Water Analysis

Listed below please find water analysis report from: Perry R Bass Wsw, WATER SUPPLY **WELL**

Lab Test Number		Sample Date	
201301003615		02/13/2013	
Specific Gravity: TDS: pH:	1.100 153402 6.65		
Cations	. <u> </u>	mg/L_	
Calcium as Ca" Magnesium as Mg" Sodium as Na' Iron as Fe" Potassium as K' Barium as Ba" Strontium as Sr" Manganese as Mn"		2669 2188 52812 9.49 7466.0 0.28 86.46 0.46	
Anions Bicarbonate as HCO ₃		mg/L 171	
Sulfate as SO ₄ Chloride as Cl		6500 81500	STATE ENG ROSWEIN 2013 APR
Gases		mg/L	R - NGIN
Carbon Dioxide as CO ₂ Hydrogen Sulfide as H ₂ S Lab Comments: SURFACE TEMP.=65.7°F		30 0.0	APR -1 P 1: 19

Analytical Laboratory Report for: BOPCO



Account Representative: Willis Mossman

DownHole SAT[™] Scale Prediction @ 250 deg. F

Sample Date	Location	
02/13/2013	WATER SUPPLY WELL	
Saturation Index	Momentary Excess (lbs/1000 bbls)	
0.46	-0.05	
0.00	-25.80	
6.85	1699.09	
1.55	710.25	
0.07	-6.67	
0.23	-487.80	
3.44	0.04	
0.04	-545840.63	
0.00	-1.34	
	02/13/2013 Saturation Index 0.46 0.00 6.85 1.55 0.07 0.23 3.44 0.04	Momentary Excess Saturation Index (Ibs/1000 bbls) 0.46 -0.05 0.00 -25.80 6.85 1699.09 1.55 710.25 0.07 -6.67 0.23 -487.80 3.44 0.04 0.04 -545840.63

Lacation

Interpretation of DHSat Results:

The Saturation Index is calculated for each mineral species independently and is a measure of the degree of supersaturation (driving force for precipitation) under the conditions modeled. This value ranges from 0 to infinity with 1.0 representing a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values greater than 1.0 are supersaturated. The Momentary excess is a measure of how much scale would have to precipitate to bring the system back to a non-scaling condition. This value ranges from negative (dissolving) to positive (precipitating) values. The Momentary Excess represents the amount of scale possible while the Saturation Level represents the probability that scale will form.





New Mexico Office of the State Engineer Transaction Summary

72121 All Applications Under Statute 72-12-1

Transaction Number: 199433

Transaction Desc: C 01916

File Date: 07/31/1980

Primary Status: E

EXP Expired Permit

Secondary Status: EXP

Expired

Person Assigned: mvigil

Applicant: PERRY R. BASS

Events

Date	Туре	Description	Comment	Processed By
07/31/1980	APP	Application Received	•	mvigil
08/04/1980	FIN ·	Final Action on application		mvigil
08/04/1980	WAP	General Approval Letter		mvigil
09/01/1981	EXP	Expired Permit (well tog late)		mvigil

Change To:

WR File Nbr Acres Diversion Consumptive Purpose of Use

C 01916 3 PRO 72-12-1 PROSPECTING OR

***PROMA OF Division DEVELOPMENT OF NATURAL

**Point of Diversion DESCUEPTE

C 01916 605068 3582947* RESOURCE

An () after northing value indicates UTM location was derived from PLSS - see Help

Remarks

WATER SUPPLY WELL FOR THE DRILLING OF JAMES RANCH UNIT #12

Conditions

- 3 Appropriation and use of water under this permit shall not exceed a period of one year from the date of approval.
- 5A A totalizing meter shall be installed before the first branch of the discharge line from the well and the installation shall be acceptable to the State Engineer; the Engineer shall be advised of the make, model, serial number, date of installation, and initial reading of the meter prior to appropriation of water; pumping records shall be submitted to the District Supervisor for each calendar month on or before the 10th day of the following month.
- The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

Approval Code: A - Approved Action Date: 08/04/1980 Log Due Date: 08/31/1981

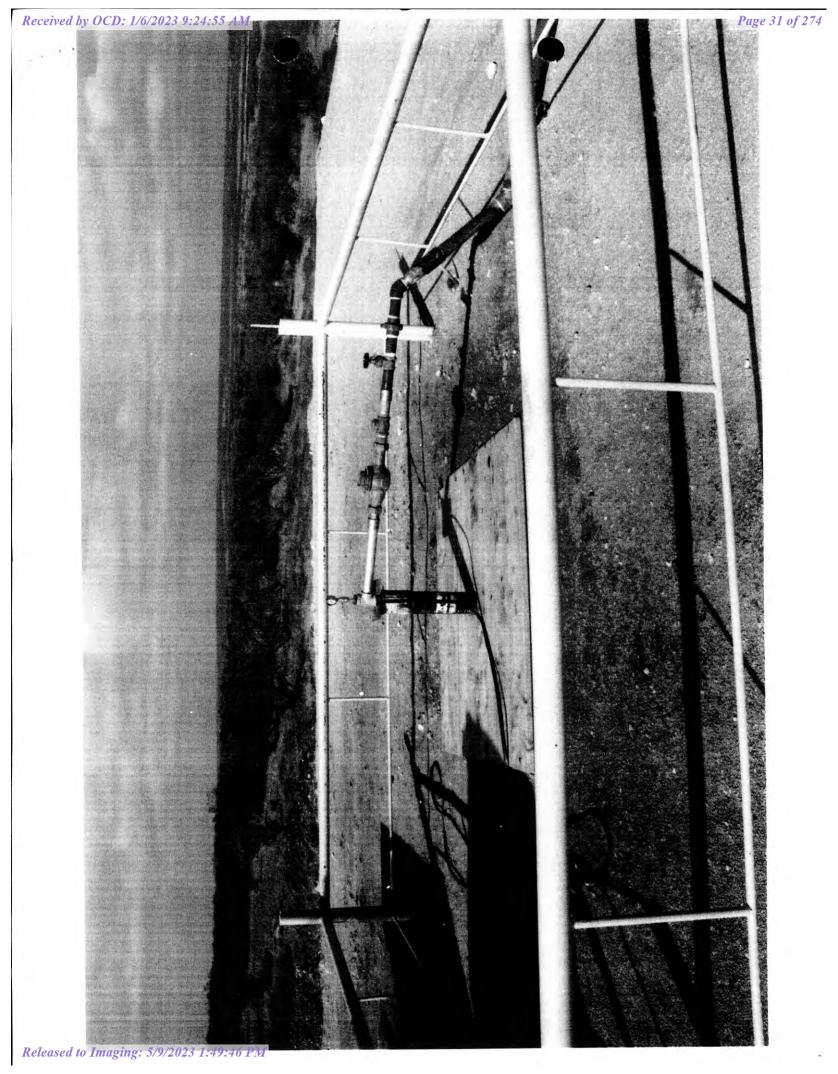
State Engineer:

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Conditions of Approval for C-1916 abandonment:

- 1) Plugging operations will be conducted in accordance with NMED, NMOCD, or other State or Federal agency having oversight for the above described project.
- 2) The well shall be plugged using a cement slurry (5.2 gals water per 94lb bag of Portland cement). It is understood that due to the high sulfate content Type V cement will be used as the data provided on water quality indicates 6,500 ppm sulfates. The cement grout will be pumped via tremie line from bottom up.
- 3) By item 2 above, the plan meets OSE requirements for tremie/grout abandonment, however, well records are not available to confirm well design/annular seals.

Released to Imaging: 5/9/2023 1:49:46 PM





APPENDIX B

Photographic Log



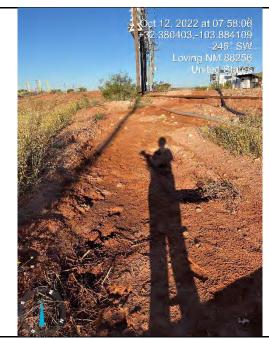
Photographic Log
XTO Energy, Inc
James Ranch Unit 163H
Incident Number NAPP2219649599



Photograph 1 Date: 7/11/2022

Description: Flowline release point.

View: Southwest



Photograph 2 Date: 10/12/2022

Description: Release Extent

View: West





Photograph 3 Date: 10/17/2022

Description: Final excavation extent.

View: West

Photograph 4 Date: 10/17/2022

Description: Final excavation extent.

View: Northwest



APPENDIX C

Lithologic Soil Sampling Logs

			_				_	Sample Name: PH01	Date: 10/13/2022		
		ΙE	N	IS	O L	UN	1	Site Name: JRU 163H	, ,		
					ngineering			Incident Number: NAPP221964	19599		
		■ Hyd	roge	eologic Co	onsultants			Job Number: 03E1558098			
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Backhoe		
Coord	inates: 32							Hole Diameter: N/A	Total Depth: 11'		
					ith HACH Ch	loride Test S	Strips and	PID for chloride and vapor, resp	pectively. Chloride test		
perfor	med with	n 1:4 dilut	tion f	actor of soi	l to distilled	water. Chlor	ride field s	creenings include a 40% correct	tion factor.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol		Descriptions		
М	8,164	1,280	Y N	SS01	0.5 _ - -	0 - - - 1	SW	0-8', SAND, moist, brown medium grained, some round gravel, brown s hydrocarbon odor.	e silt,trace small sub-		
М	5,499	83.4	N	PH01	2 _	2 2		2'-8', mild hydrocarbon o	dor.		
М	3,516	187.5	N		- - - -	- - 3 -					
М	6,988	11.9	N	PH01A	4 _	- - 4 -					
М	6,462	165.9	N		- - - -	- - 5 -					
М	5,499	122	N		- - -	- - 6 -					
М	5,062	174.5	N	PH01B	7	- - 7 -					
М	4,653	143.5	N		- - - -	- _ 8 -	SP-S	8'-11', SANDSTONE, moist, reddish brown, po graded, fine grained, moderately-well			
M	4,267	42.9	N		- - - -	- - 9 -		consolidated, no stain odor.			

10

11

12

@11', no odor. Total depth at 11 feet bgs.

M 3,908 125.9 N

N PH01C

11

M <112 1.4

Μ

Μ

Μ

Μ

Μ

DNR

705

240

240

DNR | 166.0 | N

57.9

27.3

29.6

3.0

Ν

Ν

N PH02A

N PH02B

7

	5				\circ		4	Sample Name: PH02	Date: 10/13/2022	
				1 2	O L	UN	1	Site Name: JRU 163H		
					ngineering			Incident Number: NAPP2219	649599	
		нуо	roge	eologic Co	onsultants			Job Number: 03E1558098		
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Backhoe	
Coord	inates: 32	2.380364	, -103	.884216				Hole Diameter: N/A	Total Depth: 7'	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
M	DNR	54.1	Y N	SS02	0.5	0 1	SW	0-7', SAND, moist, brow medium grained, sor round gravel, brown hydrocarbon odor. 1'-7', no stain.	ne silt,trace small sub-	
М	DNR	31.7	Ν	PH02	2	2				

3

4

5

6

7

8

9

10

11

12

4'-6', trace hydrocarbon odor.

@7', no odor. Total depth at 7 feet bgs.

							_	Sample Name: PH03	Date: 10/12/2022
		ΙE	N	IS	O L	UN	1	Site Name: JRU 163H	1, , ,
		Env	ironr	mental, E	ngineering	and		Incident Number: NAPP22196	649599
		Hyd	roge	ologic Co	onsultants			Job Number: 03E1558098	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Backhoe
Coord	inates: 32	2.380390	, -103	.884121				Hole Diameter: N/A	Total Depth: 5'
			_					PID for chloride and vapor, rescreenings include a 40% corre	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
			Υ	SS03	0.5 _	_ - -	SW	round gravel, trace be hydrocarbon odor.	ne silt,trace small sub-
M	3,259	9.3	N		-	1		1'-5', no odor, no stain.	
М	2,430	6.4	N	PH03	2	2			
М	1,472	1.7	N		- - -	- _ 3			
М	1,086	0.9	N	PH03A	4 _	- - - 4			
М	369	1.0	N	РН03В	5 <u>-</u>	5	TD	Total depth at 5 feet bg:	5
					- - -	- - - 6			•
					- - -	- - - - 7			
					- - -	- - - 8			
					- - -	- . 9			
					- - -	- -			
					- - -	10			
					- - -	11			
					-	12			

							_	Sample Name: PH04	Date: 10/13/2022		
		ΙE	N	IS	O L	UN	1	Site Name: JRU 163H	, ,		
		Envi	ironr	mental, E	ngineering	g and		Incident Number: NAPP2219	9649599		
		Hyd	roge	ologic Co	onsultants			Job Number: 03E1558098			
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Hand Auger		
Coordi		2.380459,						Hole Diameter: 3.5"	Total Depth: 7'		
Comm	ents: Fie	ld screeni	ing co	nducted w	ith HACH Ch	loride Test S	Strips and	PID for chloride and vapor, re	espectively. Chloride test		
perfor	med with	n 1:4 dilut	tion f	actor of soi	l to distilled	water. Chlor	ide field s	creenings include a 40% corr	ection factor.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologi	c Descriptions		
М	<168	0.0	Ν	PH04	0.5 <u>-</u> -	0 1 -	SW	0-7', SAND, moist, brov medium grained, so round gravel, no sta hydrocarbon odor.	me silt,trace small sub-		
М	<168	0.0	N	PH04A	2	- - 2 -					
					- - -	- _ 3 -					
M	<168	0.0	N	PH04B	4 <u>-</u> -	4					
					- - -	- _ 5 -					
М	<168	0.0	N		- - -	- 6 -					
М	<168	0.0	Ν	PH04C	7 <u> </u>	7 - 7 -	TD	Total depth at 7 feet b	₹5.		
					- - -	8 - 8					
					- - -	9 -					
					- - -	10					
					- -	11					
					<u>-</u>	12					

							_	Sample Name: PH05	Date: 10/13/2022
		ΙE	N	IS	O L	UN	1	Site Name: JRU 163H	
		Env	ironr	mental, E	ngineering	g and		Incident Number: NAPP22196	549599
		■ Hyd	roge	eologic Co	onsultants			Job Number: 03E1558098	
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Backhoe
Coordi	inates: 32	2.380380,	, -103	.884026				Hole Diameter: N/A	Total Depth: 5'
II			_					PID for chloride and vapor, rescreenings include a 40% corre	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	Descriptions
М	<168	0.0	N	PH05	0.5	0	SW	0-5', SAND, moist, brow medium grained, son round gravel, no stair	ne silt,trace small sub-
					-	1		, , , , , , , , , , , , , , , , , , , ,	,,,,,
М	280	0.0	N	PH05A	2 -	- - - 2			
					- - -	- _ _ 3			
М	<168	0.0	N	PH05B	4	4			
М	<168	0.0	N	PH05C	5 <u>-</u>	- - _ 5	TD	Total depth at 5 feet bgs	s.
					- - -	- - 6			
					- - - -	- - 7 -			
					- - - -	- 8 -			
					-	9 -			
					- - - -	10			
					- - - -	- _ 11 -			
					-	<u> </u>			

					<u> </u>	111	_	Sample Name: PH06	Date: 10/13/2022			
		ᆫ	N	15	O L	UN	7	Site Name: JRU 163H				
		Env	ironr	mental, E	ngineering onsultants	g and		Incident Number: NAPP2219649599				
								Job Number: 03E1558098				
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Hand Auger			
		2.380327						Hole Diameter: 3.5"	Total Depth: 7'			
			_					PID for chloride and vapor, re creenings include a 40% corre				
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic	C Descriptions			
М	<168	0.0	N	РН06	0.5 _ -	0	SW	0-7', SAND, moist, brow medium grained, sor round gravel, no stai	ne silt,trace small sub-			
М	<168	0.0	N	PH06A	2	- 1 - - 2						
					- - - -	- - 3 -						
М	280	0.0	N	РНО6В	4 <u>-</u> -	- 4 - 4						
М	<168	0.0	N		- - - -	5 - - - - 6						
M	<168	0.0	N	PH06C	- - 7	- ° - - 7						
	1200	0.0		111000	· - - -	- , - - 8	TD	Total depht at 7 feet bg	S.			
					- - - -	- - - 9						
					- - - -	- _ 10						
					- - - -	- - 11						
					-	- 12						

	4			1 6	\mathbf{O}		A	Sample Name: PH07	Date: 10/13/2022		
					O L			Site Name: JRU 163H			
		Env	ironi	mental, E	ngineering onsultants	g and		Incident Number: NAPP2219649599			
		_ пус	, oge	.ologic C	Jiisuitaiits			Job Number: 03E1558098			
		LITHOL	OGI	C / SOIL S	SAMPLING	LOG		Logged By: MR	Method: Hand Auger		
Coordi	inates: 32	2.380375	, -103	3.884411				Hole Diameter: 3.5"	Total Depth: 11'		
Comments: Field screening conducted with HACH Chloride Test Strips and											
perfor	med with	n 1:4 dilut	tion f	actor of soi	l to distilled	water. Chlor	ride field s	creenings include a 40% correction f	actor.		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Desc	riptions		
М	280	0.0	N	PH07	0.5	0 - -	SW	0-8', SAND, moist, brown, we medium grained, some silt round gravel, no stain, no	t,trace small sub-		
					-	1					
M	<168	0.0	N	PH07A	2	2 - 3					
М	<168	0.0	N	PH07B	4	- 3 - - - 4					
					- - - -	- - - 5 -					
М	<168	0.0	N		- - -	- _ 6 -					
М	<168	0.0	N	РН07С	7 <u>-</u>	- - - 7 -					
1 1						_					

8

9

10

11

12

TD

8'-11', SANDSTONE, moist, reddish brown, poorly graded, fine grained, moderately-well consolidated, no stain, no odor.

Total depht at 11 feet bgs.

<168

<168

201

Μ

Μ

Μ

0.0

0.0

0.0

Ν

Ν

PH07D



APPENDIX D

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-2793-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill



Authorized for release by: 9/2/2022 10:38:17 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

.....LINKS

Received by OCD: 1/6/2023 9:24:55 AM

Review your project results through

Have a Question?

EOL



Visit us at:

www.eurofinsus.com/Env Released to Imaging: 5/9/2023 1:49:46 PM

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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-2793-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-2793-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier **Qualifier Description** 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

DFR 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

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF Toxicity Equivalent Quotient (Dioxin) TEQ

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum

Job ID: 890-2793-1 Project/Site: JRU 163H SDG: 03E1558098

Job ID: 890-2793-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-2793-1

Receipt

The samples were received on 8/19/2022 3:53 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 16.0°C

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: SS01 (890-2793-1), SS02 (890-2793-2) and SS03 (890-2793-3). This does not meet regulatory requirements. The client was contacted regarding this issue, and the laboratory was instructed to <CHOOSE ONE> proceed with/cancel analysis.

Samples received out of temp range 16.2/16.0 client wanted to proceed with testing

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-33466 and analytical batch 880-33557 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS03 (890-2793-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC

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

Client Sample Results

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: SS01 Lab Sample ID: 890-2793-1

Date Collected: 08/19/22 12:40 Matrix: Solid
Date Received: 08/19/22 15:53

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
Ethylbenzene	0.0737		0.00199	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
o-Xylene	0.122		0.00199	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
Xylenes, Total	0.122		0.00398	mg/Kg		08/31/22 14:40	09/01/22 20:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		70 - 130			08/31/22 14:40	09/01/22 20:11	1
1,4-Difluorobenzene (Surr)	83		70 - 130			08/31/22 14:40	09/01/22 20:11	1
- Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.196		0.00398	mg/Kg			09/02/22 11:24	
Analyte Total TPH	Result 9640	Qualifier	RL 249	Unit mg/Kg	D	Prepared	Analyzed 08/25/22 16:03	Dil Fac
Total TPH	9640		249	mg/Kg			08/25/22 16:03	1
Method: 8015B NM - Diesel Rang	•							
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	
Gasoline Range Organics								Dil Fac
•	253		249	mg/Kg		08/23/22 15:10	08/25/22 03:45	Dil Fac
	9390		249 249	mg/Kg		08/23/22 15:10 08/23/22 15:10	08/25/22 03:45 08/25/22 03:45	
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28)		U						
(GRO)-C6-C10 Diesel Range Organics (Over	9390		249	mg/Kg		08/23/22 15:10	08/25/22 03:45	
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	9390 <249		249 249	mg/Kg		08/23/22 15:10 08/23/22 15:10	08/25/22 03:45 08/25/22 03:45	Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	9390 <249 <i>%Recovery</i>		249 249 <i>Limits</i>	mg/Kg		08/23/22 15:10 08/23/22 15:10 Prepared	08/25/22 03:45 08/25/22 03:45 Analyzed	Dil Fac
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	9390 <249 **Recovery 74 90	Qualifier	249 249 Limits 70 - 130	mg/Kg		08/23/22 15:10 08/23/22 15:10 Prepared 08/23/22 15:10	08/25/22 03:45 08/25/22 03:45 Analyzed 08/25/22 03:45	
(GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	9390 <249 **Recovery 74 90 comatography -	Qualifier	249 249 Limits 70 - 130	mg/Kg	D	08/23/22 15:10 08/23/22 15:10 Prepared 08/23/22 15:10	08/25/22 03:45 08/25/22 03:45 Analyzed 08/25/22 03:45	Dil Fac

Client Sample ID: SS02 Lab Sample ID: 890-2793-2

Date Collected: 08/19/22 12:45
Date Received: 08/19/22 15:53

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
Ethylbenzene	0.0163		0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
m-Xylene & p-Xylene	0.0172		0.00401	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
o-Xylene	0.0325		0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
Xylenes, Total	0.0497		0.00401	mg/Kg		08/31/22 14:40	09/01/22 20:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	61	S1-	70 - 130			08/31/22 14:40	09/01/22 20:31	1

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Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-2793-2

Client Sample Results

Client: Ensolum Job ID: 890-2793-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: SS02

Date Collected: 08/19/22 12:45 Date Received: 08/19/22 15:53

Sample Depth: 0.5'

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	77	70 - 130	08/31/22 14:40	09/01/22 20:31	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0660	0.00401	mg/Kg			09/02/22 11:24	1

Mothod: 8015 NM	Diosal Range	Organice	(DRO) (GC)

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	25200	250	mg/Kg			08/25/22 16:03	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	393		250	mg/Kg		08/23/22 15:10	08/25/22 04:27	5
Diesel Range Organics (Over C10-C28)	24800		250	mg/Kg		08/23/22 15:10	08/25/22 04:27	5
Oll Range Organics (Over C28-C36)	<250	U	250	mg/Kg		08/23/22 15:10	08/25/22 04:27	5
Surrogate	%Recovery	Qualifier	l imits			Prenared	Analyzed	Dil Fac

ı			
l	1-Chlorooctane	86	70 - 130
l	o-Terphenyl	123	70 - 130

1-Chlorooctane	86	70 - 130	08/23/22 15:10	08/25/22 04:27	5
o-Terphenyl	123	70 - 130	08/23/22 15:10	08/25/22 04:27	5
Г.,					

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11600	100	mg/Kg		_	08/24/22 16:36	20

Client Sample ID: SS03 Lab Sample ID: 890-2793-3 Date Collected: 08/19/22 12:50 Matrix: Solid

Date Received: 08/19/22 15:53

Sample Depth: 0.5'

Method: 8021B	Malatile O		
I IVIATOOO' XII ZI R .	. VAISTIID I Jr	nanic Lomn	Allings Ital.1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
Toluene	0.00280		0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
Ethylbenzene	0.0356		0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
m-Xylene & p-Xylene	0.0526		0.00399	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
o-Xylene	0.0735		0.00200	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
Xylenes, Total	0.126		0.00399	mg/Kg		08/31/22 14:40	09/01/22 20:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	55	S1-	70 - 130			08/31/22 14:40	09/01/22 20:51	1
1,4-Difluorobenzene (Surr)	81		70 - 130			08/31/22 14:40	09/01/22 20:51	1

Mothod:	Total RT	EY - Tota	I DTEY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.165		0.00399	mg/Kg			09/02/22 11:24	1

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	29800	250	mg/Kg			08/25/22 16:03	1

Matrix: Solid

Lab Sample ID: 890-2793-3

Client Sample Results

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: SS03

Date Collected: 08/19/22 12:50 Date Received: 08/19/22 15:53

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	449		250	mg/Kg		08/23/22 15:10	08/25/22 04:48	5
Diesel Range Organics (Over C10-C28)	29400		250	mg/Kg		08/23/22 15:10	08/25/22 04:48	5
OII Range Organics (Over C28-C36)	<250	U	250	mg/Kg		08/23/22 15:10	08/25/22 04:48	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130			08/23/22 15:10	08/25/22 04:48	5
o-Terphenyl	153	S1+	70 - 130			08/23/22 15:10	08/25/22 04:48	5
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

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Surrogate Summary

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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)	
890-2791-A-2-H MS	Matrix Spike	94	109	
890-2791-A-2-I MSD	Matrix Spike Duplicate	93	108	
890-2793-1	SS01	73	83	
890-2793-2	SS02	61 S1-	77	
890-2793-3	SS03	55 S1-	81	
LCS 880-33466/1-A	Lab Control Sample	94	99	
LCSD 880-33466/2-A	Lab Control Sample Dup	96	101	
MB 880-33466/5-A	Method Blank	78	116	
Surrogate Legend				

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)	
890-2793-1	SS01	74	90	
890-2793-2	SS02	86	123	
890-2793-3	SS03	108	153 S1+	

Surrogate Legend

1CO = 1-Chlorooctane

DFBZ = 1,4-Difluorobenzene (Surr)

OTPH = o-Terphenyl

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Client: Ensolum Job ID: 890-2793-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-33466/5-A

Lab Sample ID: LCS 880-33466/1-A

Matrix: Solid

Analysis Batch: 33557

Matrix: Solid Analysis Batch: 33557 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 33466

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 18:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 18:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 18:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/31/22 14:40	09/01/22 18:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/31/22 14:40	09/01/22 18:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/31/22 14:40	09/01/22 18:00	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepar	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130	08/31/22	14:40	09/01/22 18:00	1
1,4-Difluorobenzene (Surr)	116		70 - 130	08/31/22	14:40	09/01/22 18:00	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 33466

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1098 mg/Kg 110 70 - 130 Toluene 0.100 0.1103 mg/Kg 110 70 - 130 0.100 0.1076 108 Ethylbenzene mg/Kg 70 - 130 0.200 99 70 - 130 m-Xylene & p-Xylene 0.1975 mg/Kg 0.100 0.1037 70 - 130 o-Xylene mg/Kg 104

LCS LCS

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

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Lab Sample ID: LCSD 880-33466/2-A

Analysis Batch: 33557

Prep Type: Total/NA Prep Batch: 33466

	Spike	LCOD	LCSD				70KeC		KFD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1142		mg/Kg		114	70 - 130	4	35	
Toluene	0.100	0.1143		mg/Kg		114	70 - 130	4	35	
Ethylbenzene	0.100	0.1120		mg/Kg		112	70 - 130	4	35	
m-Xylene & p-Xylene	0.200	0.2059		mg/Kg		103	70 - 130	4	35	
o-Xylene	0.100	0.1080		mg/Kg		108	70 - 130	4	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	96	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: 890-2791-A-2-H MS

Matrix: Solid

Analysis Batch: 33557

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 33466

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.09295		mg/Kg	_	93	70 - 130	
Toluene	<0.00200	U	0.0998	0.06941		mg/Kg		70	70 - 130	

Client: Ensolum Job ID: 890-2793-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 890-2791-A-2-H MS Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Total/NA Analysis Batch: 33557 Prep Batch: 33466

	Sample	Sample	Spike	IVIS	IVIS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00200	U F1	0.0998	0.04751	F1	mg/Kg		48	70 - 130	
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.08400	F1	mg/Kg		42	70 - 130	
o-Xylene	<0.00200	U F1	0.0998	0.04484	F1	mg/Kg		45	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 94 1,4-Difluorobenzene (Surr) 109 70 - 130

Client Sample ID: Matrix Spike Duplicate Lab Sample ID: 890-2791-A-2-I MSD

Matrix: Solid Prep Type: Total/NA **Analysis Batch: 33557** Prep Batch: 33466

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0994	0.09702		mg/Kg		98	70 - 130	4	35
Toluene	<0.00200	U	0.0994	0.07575		mg/Kg		76	70 - 130	9	35
Ethylbenzene	<0.00200	U F1	0.0994	0.05323	F1	mg/Kg		54	70 - 130	11	35
m-Xylene & p-Xylene	<0.00399	U F1	0.199	0.09324	F1	mg/Kg		47	70 - 130	10	35
o-Xylene	<0.00200	U F1	0.0994	0.05060	F1	mg/Kg		51	70 - 130	12	35
The state of the s											

MSD MSD Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 93 1,4-Difluorobenzene (Surr) 108 70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-32736/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 32797

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			08/24/22 12:02	1

Lab Sample ID: LCS 880-32736/2-A Client Sample ID: Lab Control Sample **Prep Type: Soluble** Matrix: Solid

Analysis Batch: 32797

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	243.9		mg/Kg	_	98	90 - 110	

Lab Sample ID: LCSD 880-32736/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 32797

•	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	243.8		mg/Kg		98	90 - 110		20

Client: Ensolum Job ID: 890-2793-1 Project/Site: JRU 163H

SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2791-A-2-B MS Client Sample ID: Matrix Spike **Matrix: Solid**

Prep Type: Soluble

Analysis Batch: 32797

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Analyte Unit %Rec Limits Chloride 686 251 919.6 mg/Kg 93 90 - 110

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analysis Batch: 32797

Matrix: Solid

Lab Sample ID: 890-2791-A-2-C MSD

Sample Sample Spike MSD MSD %Rec RPD Result Qualifier Added Result Qualifier Limits RPD Limit Analyte Unit D %Rec Chloride 686 251 918.4 mg/Kg 93 90 - 110 0 20

QC Association Summary

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA

Prep Batch: 33466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Total/NA	Solid	5035	
890-2793-2	SS02	Total/NA	Solid	5035	
890-2793-3	SS03	Total/NA	Solid	5035	
MB 880-33466/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-33466/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-33466/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2791-A-2-H MS	Matrix Spike	Total/NA	Solid	5035	
890-2791-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 33557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Total/NA	Solid	8021B	33466
890-2793-2	SS02	Total/NA	Solid	8021B	33466
890-2793-3	SS03	Total/NA	Solid	8021B	33466
MB 880-33466/5-A	Method Blank	Total/NA	Solid	8021B	33466
LCS 880-33466/1-A	Lab Control Sample	Total/NA	Solid	8021B	33466
LCSD 880-33466/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	33466
890-2791-A-2-H MS	Matrix Spike	Total/NA	Solid	8021B	33466
890-2791-A-2-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	33466

Analysis Batch: 33639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Total/NA	Solid	Total BTEX	
890-2793-2	SS02	Total/NA	Solid	Total BTEX	
890-2793-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 32793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Total/NA	Solid	8015NM Prep	
890-2793-2	SS02	Total/NA	Solid	8015NM Prep	
890-2793-3	SS03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 32806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Total/NA	Solid	8015B NM	32793
890-2793-2	SS02	Total/NA	Solid	8015B NM	32793
890-2793-3	SS03	Total/NA	Solid	8015B NM	32793

Analysis Batch: 32999

Lab Sample ID 890-2793-1	Client Sample ID SS01	Prep Type Total/NA	Matrix Solid	Method 8015 NM	Prep Batch
890-2793-2	SS02	Total/NA	Solid	8015 NM	
890-2793-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 32736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Soluble	Solid	DI Leach	<u> </u>
890-2793-2	SS02	Soluble	Solid	DI Leach	

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QC Association Summary

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

HPLC/IC (Continued)

Leach Batch: 32736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-3	SS03	Soluble	Solid	DI Leach	
MB 880-32736/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-32736/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-32736/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2791-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2791-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 32797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2793-1	SS01	Soluble	Solid	300.0	32736
890-2793-2	SS02	Soluble	Solid	300.0	32736
890-2793-3	SS03	Soluble	Solid	300.0	32736
MB 880-32736/1-A	Method Blank	Soluble	Solid	300.0	32736
LCS 880-32736/2-A	Lab Control Sample	Soluble	Solid	300.0	32736
LCSD 880-32736/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	32736
890-2791-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	32736
890-2791-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	32736

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 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: SS01 Lab Sample ID: 890-2793-1

Matrix: Solid

Date Collected: 08/19/22 12:40 Date Received: 08/19/22 15:53

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	33466	08/31/22 14:40	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33557	09/01/22 20:11	EL	EET MID
Total/NA	Analysis	Total BTEX		1			33639	09/02/22 11:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			32999	08/25/22 16:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	32793	08/23/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		5			32806	08/25/22 03:45	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	32736	08/23/22 09:11	KS	EET MID
Soluble	Analysis	300.0		20			32797	08/24/22 16:28	SMC	EET MID

Client Sample ID: SS02 Lab Sample ID: 890-2793-2

Date Collected: 08/19/22 12:45

Date Received: 08/19/22 15:53

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	33466	08/31/22 14:40	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33557	09/01/22 20:31	EL	EET MID
Total/NA	Analysis	Total BTEX		1			33639	09/02/22 11:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			32999	08/25/22 16:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32793	08/23/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		5			32806	08/25/22 04:27	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	32736	08/23/22 09:11	KS	EET MID
Soluble	Analysis	300.0		20			32797	08/24/22 16:36	SMC	EET MID

Client Sample ID: SS03 Lab Sample ID: 890-2793-3

Date Collected: 08/19/22 12:50

Date Received: 08/19/22 15:53

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	33466	08/31/22 14:40	MR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	33557	09/01/22 20:51	EL	EET MID
Total/NA	Analysis	Total BTEX		1			33639	09/02/22 11:24	AJ	EET MID
Total/NA	Analysis	8015 NM		1			32999	08/25/22 16:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	32793	08/23/22 15:10	DM	EET MID
Total/NA	Analysis	8015B NM		5			32806	08/25/22 04:48	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	32736	08/23/22 09:11	KS	EET MID
Soluble	Analysis	300.0		20			32797	08/24/22 16:44	SMC	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-2793-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority Texas		ogram	Identification Number	Expiration Date	
Texas	NE	ELAP	T104704400-22-24	06-30-23	
The following analytes	are included in this report by	it the leberatory is not contiffi	iad butba gaugeming authority. This list ma		
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for v	
0 ,	' '	Matrix	Analyte	ay include analytes for v	
the agency does not of	fer certification.	•	, , ,	ay include analytes for v	

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Method Summary

Job ID: 890-2793-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Method	Method Description	Protocol	Laboratory
3021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
3015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
3015B 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
I 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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-2793-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	De
890-2793-1	SS01	Solid	08/19/22 12:40	08/19/22 15:53	0.5'
890-2793-2	SS02	Solid	08/19/22 12:45	08/19/22 15:53	0.5'
890-2793-3	SS03	Solid	08/19/22 12:50	08/19/22 15:53	0.5'

dinquished by:

Signature)

Received by: (Signature)

119/22 Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

	euro
	fins
Xenco	Environment
	Testing

Address: Company Name:

City, State ZIP

Carlsbad, NM 88220 3122 National Parks Hwy Project Manager:

Bill to: (if different)

Company Name:

Address: City, State ZIP:

Carlsbad, NM 88220 3104 E. Green St XTO Energy Garret Green

Reporting: Level II 🗌 Level III 🗎 PST/UST 📋 TRRP 📗

Level IV

State of Project:

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

Work Order Comments

www.xenco.com

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Ensolum Ben Belill

Chain of Custody

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 Houston, TX (281) 240-4200. Dallas, TX (214) 902-0300

Work Order No:

Oity, Otato Ali .	Carrobad, 14141 COLLO										
Phone:	303-887-2946		Email:	Email: Garret.Green@ExxonMobil.com	@Exxc	aMob	l.com		Deliverables: EDD	AUAP L Otner:	
Project Name:	JRU 163H		Turn /	Turn Around					ANALYSIS REQUEST	Preservative Codes	
Project Number:	03E1558098	<<	Routine	Rush	Pres. Code					None: NO DI Water: H ₂ O	
Project Location:	32.1931,-103.7799		Due Date:							<u>_</u>	
Sampler's Name:	Kase Parker		T starts the	TAT starts the day received by							
PO #:		th	e lab, if rece	the lab, if received by 4:30pm	ers					H ₂ SU ₄ : H ₂ NaCH: Na	
SAMPLE RECEIPT	Temp Blank:	Yes No V	Wet Ice:	Mes No	nete	1.0)				H ₃ PO ₄ : HP	
Samples Received Intact	tact: Yes No	Thermometer ID:	ږ	UW-00-	aran	300				NaHSO ₄ : NABIS	20
Cooler Custody Seals:	: Yes No NA	Correction Factor:	or:	£10-	Pa	PA:				Na ₂ S ₂ O ₃ : NaSO ₃	of S
Sample Custody Seals	s: Yes No / N/A	Temperature Reading	eading:	6.9		S (E		1	890-2793 Chain of Custody	Zn Acetate+NaOH: Zn	8 6
Total Containers:	(Corrected Temperature:	perature:	16.0		RIDE	015)	802		NaUH+Ascorbic Acid: SAPC	_ 1
Sample Identification	tification Matrix	Date Sampled S	Time Sampled	Depth Grab/	cont	СНГО	TPH (8	BTEX		Sample Comments	Pac
SS01	S	8/19/2022	12:40	0.5		×	×	×		Incident ID:	
\$802			12:45	0.5		×	×	×		nAPP2219649599	
SS03	S	8/19/2022	12:50	0.5		×	×	×		Cost Center:	
						1				1140601001	
						1	2			AFE:	
						K	1				
Total 200.7 / 6010	10 200.8 / 6020:	8RC	8RCRA 13PPM	M Texas 11	1 Al Sb	Sb As	Ва	ВеВ	B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se	Ph Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Tl Sn U V Zn	
Circle Method(s) ar	ĕ		TCLP / SF	TCLP / SPLP 6010: 8RCRA	ĈŖĄ	Sb As Ba	s Ba	Be C	Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245 1 / 7470 / 7471	
Notice: Signature of this o	document and relinquishment	of samples constitu	ites a valid pi	ırchase order fro	n client	ompany	to Eur	ofins Xe	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	conditions	
of service. Eurofins Xenc	o will be liable only for the co	st of samples and s	hall not assu	ne any responsit	ility for a	ny losse	s or ex	penses I	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 cilent if such losses are due to circumstances beyond the control	d the control usly negotiated.	
2	The state of the s				•	,			THE COUNTY OF THE PROPERTY OF THE PARTY OF T		

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-2793-1 SDG Number: 03E1558098

Login Number: 2793 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-2793-1 SDG Number: 03E1558098

List Source: Eurofine Midland

List Source: Eurofins Midland
List Number: 2
List Creation: 08/23/22 10:32 AM

Creator: Rodriguez, Leticia

<6mm (1/4").

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	N/A	

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Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3207-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

Authorized for release by: 10/20/2022 9:38:12 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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3207-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-3207-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC VOA Qualifier **Qualifier Description**

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

LCS and/or LCSD is outside acceptance limits, low biased.

*1 LCS/LCSD RPD exceeds control limits.

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

HPLC/IC

Qualifier **Qualifier Description**

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

DFR 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

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

 Client: Ensolum
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3207-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3207-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH07 (890-3207-1), PH07A (890-3207-2), PH07B (890-3207-3), PH07C (890-3207-4) and PH07D (890-3207-5).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37188 and analytical batch 880-37190 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-37188 and analytical batch 880-37190 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC

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

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Client Sample Results

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH07

Lab Sample ID: 890-3207-1 Date Collected: 10/13/22 15:05 Matrix: Solid

Date Received: 10/17/22 12:12 Sample Depth: 0.5'

	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
Toluene	0.00317		0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
m-Xylene & p-Xylene	0.00496		0.00401	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
Xylenes, Total	0.00496		0.00401	mg/Kg		10/18/22 11:00	10/18/22 17:18	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130			10/18/22 11:00	10/18/22 17:18	1
1,4-Difluorobenzene (Surr)	84		70 - 130			10/18/22 11:00	10/18/22 17:18	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00813		0.00401	mg/Kg			10/19/22 11:52	1
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
							Allalyzeu	DII Fac
Total TPH	<50.0	U	50.0	mg/Kg	_ =		10/19/22 09:56	
Total TPH Method: SW846 8015B NM - Dies				mg/Kg	— <u>=</u>			
Total TPH Method: SW846 8015B NM - Dies Analyte	sel Range Orga			mg/Kg		Prepared		1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga Result	nics (DRO)	(GC)				10/19/22 09:56	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	nics (DRO) Qualifier U *- *1	(GC)	Unit		Prepared	10/19/22 09:56 Analyzed	Dil Fac
Method: SW846 8015B NM - Dies	sel Range Orga Result <50.0	nics (DRO) Qualifier U *- *1	(GC) RL 50.0	Unit mg/Kg		Prepared 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 14:58	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <50.0	nics (DRO) Qualifier U *- *1 U	(GC) RL 50.0	Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 14:58 10/18/22 14:58	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <50.0 <50.0	nics (DRO) Qualifier U *- *1 U	(GC) RL 50.0 50.0 50.0	Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 14:58 10/18/22 14:58	Dil Face 1 1 1 1 Dil Face
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Name	nics (DRO) Qualifier U *- *1 U	(GC) RL 50.0 50.0 50.0 Limits	Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared	10/19/22 09:56 Analyzed 10/18/22 14:58 10/18/22 14:58 10/18/22 14:58 Analyzed	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	sel Range Orga Result <50.0	Qualifier U*-*1 U Qualifier	RL 50.0 50.0 50.0 50.0 Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 14:58 10/18/22 14:58 Analyzed 10/18/22 14:58	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Sel Range Orga Result <50.0 <50.0 <50.0 **Recovery 110 94 94 94 94 94 94 94 9	Qualifier U*-*1 U Qualifier	RL 50.0 50.0 50.0 50.0 Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 14:58 10/18/22 14:58 Analyzed 10/18/22 14:58	Dil Fac

Client Sample ID: PH07A Lab Sample ID: 890-3207-2

Date Collected: 10/13/22 15:10 Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
Toluene	<0.00202	U	0.00202	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		10/18/22 11:00	10/18/22 17:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130			10/18/22 11:00	10/18/22 17:38	1

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Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3207-2

Client Sample Results

 Client: Ensolum
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH07A

Date Collected: 10/13/22 15:10 Date Received: 10/17/22 12:12

Sample Depth: 2'

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	106	70 - 130	10/18/22 11:00	10/18/22 17:38	1

Method: TAI	SOP Total BTEX	- Total BTFX	Calculation
Mictilou. IAL	- OOI TOTAL DIEA	- IOIGI DIEA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403	mg/Kg			10/19/22 11:52	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			10/19/22 09:56	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	49.9	mg/Kg		10/18/22 08:38	10/18/22 15:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 15:19	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 15:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepare	ed Analyzed	Dil Fac
1-Chlorooctane	99	70 - 130	10/18/22 0	08:38 10/18/22 15:19	1
o-Terphenyl	87	70 - 130	10/18/22 0	08:38 10/18/22 15:19	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	57.7	5.00	mg/Kg			10/19/22 19:45	1

Client Sample ID: PH07B Lab Sample ID: 890-3207-3

Date Collected: 10/13/22 15:15 Date Received: 10/17/22 12:12

Sample Depth: 4'

Method: SW846	S 2021R - Volatile	Organic (Compounds	(CC)

motifica. Offoro COLID Tolutile	organio comp	ounas (oo	,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/18/22 11:00	10/18/22 17:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130			10/18/22 11:00	10/18/22 17:59	1
1,4-Difluorobenzene (Surr)	115		70 - 130			10/18/22 11:00	10/18/22 17:59	1

Mothod: TAI	SOP Total BTF	Y - Total RTFY	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00399	U	0.00399	mg/Kg			10/19/22 11:52	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/19/22 09:56	1

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Matrix: Solid

2

3

4

6

0

10

12

Matrix: Solid

Lab Sample ID: 890-3207-3

10/19/22 19:54

Client Sample Results

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH07B

Date Collected: 10/13/22 15:15 Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	50.0	mg/Kg		10/18/22 08:38	10/18/22 15:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 15:41	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 15:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			10/18/22 08:38	10/18/22 15:41	1
o-Terphenyl	92		70 - 130			10/18/22 08:38	10/18/22 15:41	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: PH07C Lab Sample ID: 890-3207-4 Date Collected: 10/13/22 15:20 Matrix: Solid

40.8

5.02

mg/Kg

Date Received: 10/17/22 12:12

Sample Depth: 7'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/18/22 11:00	10/18/22 18:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			10/18/22 11:00	10/18/22 18:19	1
1,4-Difluorobenzene (Surr)	83		70 - 130			10/18/22 11:00	10/18/22 18:19	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/19/22 11:52	1
Method: SW846 8015 NM - Diese	•	, , ,	,					
Method: SW846 8015 NM - Diese Analyte	Result	Qualifier	GC)	Unit	D	Prepared	Analyzed	Dil Fac
	•	Qualifier	,	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 10/19/22 09:56	Dil Fac
Analyte	Result <49.8	Qualifier U	RL 49.8		<u>D</u>	Prepared		Dil Fac
Analyte Total TPH	Result <49.8	Qualifier U	RL 49.8		<u>D</u>	Prepared Prepared		Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies	Result <49.8 sel Range Orga Result	Qualifier U	RL 49.8 (GC)	mg/Kg			10/19/22 09:56	1
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.8 sel Range Orga Result	Qualifier U nics (DRO) Qualifier U *- *1	RL 49.8 (GC) RL	mg/Kg		Prepared	10/19/22 09:56 Analyzed	1 Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	Result <49.8 sel Range Orga Result <49.8	Qualifier U unics (DRO) Qualifier U *- *1	RL 49.8 (GC) RL 49.8	mg/Kg Unit mg/Kg		Prepared 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 16:23	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8 sel Range Orga Result <49.8 <49.8	Qualifier U unics (DRO) Qualifier U *- *1 U	RL 49.8 (GC) RL 49.8 49.8	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 16:23 10/18/22 16:23	1 Dil Fac 1 1
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result	Qualifier U unics (DRO) Qualifier U *- *1 U	RL 49.8 (GC) RL 49.8 49.8 49.8 49.8	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 16:23 10/18/22 16:23	1 Dil Fac 1

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Lab Sample ID: 890-3207-4

Client Sample ID: PH07C Date Collected: 10/13/22 15:20 Date Received: 10/17/22 12:12

Matrix: Solid

Sample Depth: 7'

Method: MCAWW 300.0 - Anions,	lon Chromatography - S	oluble					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24.7	5.03	mg/Kg			10/19/22 20:02	1

Client Sample ID: PH07D Lab Sample ID: 890-3207-5

Date Collected: 10/13/22 15:30 Date Received: 10/17/22 12:12

Method: TAL SOP Total BTEX - Total BTEX Calculation

Matrix: Solid

Sample Depth: 11'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/18/22 11:00	10/18/22 18:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			10/18/22 11:00	10/18/22 18:40	1
1,4-Difluorobenzene (Surr)	87		70 - 130			10/18/22 11:00	10/18/22 18:40	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/19/22 11:52	1
 Method: SW846 8015 NM - Diesel F	Range Organ	ics (DRO) ((GC)					

Michiga. Offoro ou to Min - Dic.	sei italige Organ	ics (Dito) (C	- ,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			10/19/22 09:56	1
Mothod: SW946 9015P NM Di	anal Banga Orga	nico (DBO) (CC)					

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	49.9	mg/Kg		10/18/22 08:38	10/18/22 16:44	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 16:44	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 16:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130			10/18/22 08:38	10/18/22 16:44	1
o-Terphenyl	95		70 - 130			10/18/22 08:38	10/18/22 16:44	1

Method: MCAWW 300.0 - Anions, I	on Chromatogr	raphy - Sol	uble					
Analyte	Result Q	(ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.2		4.96	mg/Kg			10/19/22 20:10	1

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Released to Imaging: 5/9/2023 1:49:46 PM

Surrogate Summary

Job ID: 890-3207-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-20420-A-11-D MS	Matrix Spike	91	107	
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106	
890-3207-1	PH07	81	84	
890-3207-2	PH07A	100	106	
890-3207-3	PH07B	77	115	
890-3207-4	PH07C	91	83	
890-3207-5	PH07D	117	87	
LCS 880-37187/1-A	Lab Control Sample	108	101	
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112	
MB 880-37187/5-A	Method Blank	82	95	

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	
Sample ID	Client Sample ID	(70-130)	(70-130)	
)-20421-A-41-F MS	Matrix Spike	108	85	
20421-A-41-G MSD	Matrix Spike Duplicate	85	72	
3207-1	PH07	110	94	
3207-2	PH07A	99	87	
3207-3	PH07B	102	92	
3207-4	PH07C	108	97	
3207-5	PH07D	108	95	
880-37188/2-A	Lab Control Sample	91	101	
D 880-37188/3-A	Lab Control Sample Dup	95	86	
880-37188/1-A	Method Blank	133 S1+	124	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3207-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37187

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xvlenes. Total	< 0.00400	U	0.00400	ma/Ka		10/18/22 08:29	10/18/22 10:54	1

MB MB

Surrogate	%Recovery (Qualifier Limit	s Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82	70 - 1	30 10/18/22 08:29	10/18/22 10:54	1
1,4-Difluorobenzene (Surr)	95	70 - 1	30 10/18/22 08:29	10/18/22 10:54	1

Lab Sample ID: LCS 880-37187/1-A

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37187

ı		Spike	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Benzene	0.100	0.1065		mg/Kg		107	70 - 130	
	Toluene	0.100	0.1059		mg/Kg		106	70 - 130	
	Ethylbenzene	0.100	0.1126		mg/Kg		113	70 - 130	
İ	m-Xylene & p-Xylene	0.200	0.2390		mg/Kg		120	70 - 130	
	o-Xylene	0.100	0.1175		mg/Kg		117	70 - 130	
ı									

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	108	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-37187/2-A

Matrix: Solid

Analysis Batch: 37185

	Client Sam	ple ID: Lab	Control Sam	ple Dup
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Prep Type: Total/NA

Prep Batch: 37187

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1219		mg/Kg		122	70 - 130	13	35	
Toluene	0.100	0.1041		mg/Kg		104	70 - 130	2	35	
Ethylbenzene	0.100	0.09897		mg/Kg		99	70 - 130	13	35	
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	18	35	
o-Xylene	0.100	0.09840		mg/Kg		98	70 - 130	18	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	91	70 - 130
1 4-Difluorobenzene (Surr)	112	70 - 130

Lab Sample ID: 880-20420-A-11-D MS

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37187

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130	
Toluene	<0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130	

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37187

QC Sample Results

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 880-20420-A-11-D MS

Matrix: Solid

Analysis Batch: 37185

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130	
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130	
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	91	70 - 130
1,4-Difluorobenzene (Surr)	107	70 - 130

Lab Sample ID: 880-20420-A-11-E MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 37185									Prep	Batch:	37187
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	< 0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

MSD MSD

Surrogate	%Recovery Qualifie	er Limits
4-Bromofluorobenzene (Surr)	115	70 - 130
1,4-Difluorobenzene (Surr)	106	70 - 130

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

Lab Sample ID: MB 880-37188/1-A

Matrix: Solid

Analysis Batch: 37190

Client Sample ID: Method Blank
Prep Type: Total/NA
Pren Batch: 37188

Client Sample ID: Lab Control Sample

MB MB Analyte Result Qualifier RL Unit D Prepared Dil Fac Analyzed 50.0 10/18/22 08:38 Gasoline Range Organics <50.0 U 10/18/22 10:43 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 10/18/22 10:43 <50.0 U 50.0 10/18/22 08:38 mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 10/18/22 08:38 10/18/22 10:43 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130	10/18/22 08:3	10/18/22 10:43	1
o-Terphenyl	124		70 - 130	10/18/22 08:38	3 10/18/22 10:43	1

Lab Sample ID: LCS 880-37188/2-A **Matrix: Solid**

Analysis Batch: 37190

						Prep Type: Total/NA
						Prep Batch: 37188
Spike	LCS	LCS				%Rec
Added	Result	Qualifier	Unit	D	%Rec	Limits
				_		

	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
	Gasoline Range Organics	1000	814.2		mg/Kg		81	70 - 130	 	
	(GRO)-C6-C10									
	Diesel Range Organics (Over	1000	943.3		mg/Kg		94	70 - 130		
١	C10-C28)									

Job ID: 890-3207-1

SDG: 03E1558098

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

Lab Sample ID: LCS 880-37188/2-A

Lab Sample ID: LCSD 880-37188/3-A

Lab Sample ID: 880-20421-A-41-F MS

Matrix: Solid

Matrix: Solid

Client: Ensolum Project/Site: JRU 163H

Analysis Batch: 37190

Diesel Range Organics (Over

Analysis Batch: 37190

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37188

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 91 70 - 130 o-Terphenyl 101 70 - 130

Client Sample ID: Lab Control Sample Dup

70 - 130

86

Prep Type: Total/NA

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Analysis Batch: 37190 Prep Batch: 37188 Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 566.2 *- *1 57 70 - 13036 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10

862.6

mg/Kg

1000

C10-C28)

Matrix: Solid

LCSD LCSD

Surrogate	%Recovery 0	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	86		70 - 130

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37188

MS MS Sample Sample Spike Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits D Gasoline Range Organics <49.9 U *- *1 999 1067 mg/Kg 107 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1033 mg/Kg 103 70 - 130

C10-C28)

o-Terphenyl

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 108 o-Terphenyl 85 70 - 130

Lab Sample ID: 880-20421-A-41-G MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37190

Prep Batch: 37188 MSD MSD Spike %Rec Sample Sample

70 - 130

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics U *- *1 997 933.4 94 <49.9 mg/Kg 70 - 130 13 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 997 903.4 mg/Kg 91 70 - 130 13 20 C10-C28)

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

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RPD

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Prep Type: Soluble

Prep Type: Soluble

Client Sample ID: PH07

Client Sample ID: PH07

Prep Type: Soluble

Prep Type: Soluble

QC Sample Results

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37168/1-A

Matrix: Solid

Analysis Batch: 37251

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 10/19/22 18:55

Lab Sample ID: LCS 880-37168/2-A

Matrix: Solid

Analysis Batch: 37251

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 267.9 mg/Kg 107 90 - 110

Lab Sample ID: LCSD 880-37168/3-A

Matrix: Solid

Analysis Batch: 37251

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 250 263.6 mg/Kg 105 90 - 110

Lab Sample ID: 890-3207-1 MS

Matrix: Solid

Analysis Batch: 37251

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 195 250 431.9 95 90 - 110 mg/Kg

Lab Sample ID: 890-3207-1 MSD

Matrix: Solid

Analysis Batch: 37251

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 195 453.1 mg/Kg 104 90 - 110 20

QC Association Summary

 Client: Ensolum
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	8021B	37187
890-3207-2	PH07A	Total/NA	Solid	8021B	37187
890-3207-3	PH07B	Total/NA	Solid	8021B	37187
890-3207-4	PH07C	Total/NA	Solid	8021B	37187
890-3207-5	PH07D	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	5035	
890-3207-2	PH07A	Total/NA	Solid	5035	
890-3207-3	PH07B	Total/NA	Solid	5035	
890-3207-4	PH07C	Total/NA	Solid	5035	
890-3207-5	PH07D	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	Total BTEX	
890-3207-2	PH07A	Total/NA	Solid	Total BTEX	
890-3207-3	PH07B	Total/NA	Solid	Total BTEX	
890-3207-4	PH07C	Total/NA	Solid	Total BTEX	
890-3207-5	PH07D	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	8015NM Prep	
890-3207-2	PH07A	Total/NA	Solid	8015NM Prep	
890-3207-3	PH07B	Total/NA	Solid	8015NM Prep	
890-3207-4	PH07C	Total/NA	Solid	8015NM Prep	
890-3207-5	PH07D	Total/NA	Solid	8015NM Prep	
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	8015B NM	37188
890-3207-2	PH07A	Total/NA	Solid	8015B NM	37188

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QC Association Summary

 Client: Ensolum
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC Semi VOA (Continued)

Analysis Batch: 37190 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-3	PH07B	Total/NA	Solid	8015B NM	37188
890-3207-4	PH07C	Total/NA	Solid	8015B NM	37188
890-3207-5	PH07D	Total/NA	Solid	8015B NM	37188
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015B NM	37188
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37188
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37188
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	37188
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37188

Analysis Batch: 37286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Total/NA	Solid	8015 NM	
890-3207-2	PH07A	Total/NA	Solid	8015 NM	
890-3207-3	PH07B	Total/NA	Solid	8015 NM	
890-3207-4	PH07C	Total/NA	Solid	8015 NM	
890-3207-5	PH07D	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Soluble	Solid	DI Leach	
890-3207-2	PH07A	Soluble	Solid	DI Leach	
890-3207-3	РН07В	Soluble	Solid	DI Leach	
890-3207-4	PH07C	Soluble	Solid	DI Leach	
890-3207-5	PH07D	Soluble	Solid	DI Leach	
MB 880-37168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3207-1 MS	PH07	Soluble	Solid	DI Leach	
890-3207-1 MSD	PH07	Soluble	Solid	DI Leach	

Analysis Batch: 37251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3207-1	PH07	Soluble	Solid	300.0	37168
890-3207-2	PH07A	Soluble	Solid	300.0	37168
890-3207-3	PH07B	Soluble	Solid	300.0	37168
890-3207-4	PH07C	Soluble	Solid	300.0	37168
890-3207-5	PH07D	Soluble	Solid	300.0	37168
MB 880-37168/1-A	Method Blank	Soluble	Solid	300.0	37168
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	300.0	37168
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37168
890-3207-1 MS	PH07	Soluble	Solid	300.0	37168
890-3207-1 MSD	PH07	Soluble	Solid	300.0	37168

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Released to Imaging: 5/9/2023 1:49:46 PM

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH07 Lab Sample ID: 890-3207-1

Date Collected: 10/13/22 15:05 Matrix: Solid Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 17:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37317	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37286	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 14:58	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 19:20	CH	EET MID

Client Sample ID: PH07A Lab Sample ID: 890-3207-2 Matrix: Solid

Date Collected: 10/13/22 15:10 Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 17:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37317	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37286	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 15:19	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	37168	10/17/22 15:36	KS	EET MIC
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 19:45	CH	EET MID

Client Sample ID: PH07B Lab Sample ID: 890-3207-3

Date Collected: 10/13/22 15:15 **Matrix: Solid** Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 17:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37317	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37286	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 15:41	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 19:54	CH	EET MID

Client Sample ID: PH07C Lab Sample ID: 890-3207-4

Date Collected: 10/13/22 15:20 **Matrix: Solid** Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 18:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37317	10/19/22 11:52	SM	EET MID

Lab Chronicle

Client: Ensolum Job ID: 890-3207-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH07C

Date Collected: 10/13/22 15:20 Date Received: 10/17/22 12:12 Lab Sample ID: 890-3207-4

Matrix: Solid

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37286	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 16:23	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 20:02	CH	EET MID

Client Sample ID: PH07D Lab Sample ID: 890-3207-5

Date Collected: 10/13/22 15:30 Date Received: 10/17/22 12:12

Batch Initial Prepared Batch Dil Final Batch

Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 18:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37317	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37286	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 16:44	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 20:10	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
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority F		rogram	Identification Number	Expiration Date	
Texas	N	ELAP	T104704400-22-24	06-30-23	
The following analytes	are included in this report by	ut the laboratory is not cortifi	ed by the governing authority. This list ma	v include analytee fo	
the agency does not of	• •	ut the laboratory is not certifi	ed by the governing additionty. This list the	ay iliciude allaiytes lo	
0 ,	• •	Matrix	Analyte	ay include analytes to	
the agency does not of	fer certification.	•	, , ,	ay include analytes to	

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Method Summary

 Client: Ensolum
 Job ID: 890-3207-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3207-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3207-1	PH07	Solid	10/13/22 15:05	10/17/22 12:12	0.5'
890-3207-2	PH07A	Solid	10/13/22 15:10	10/17/22 12:12	2'
890-3207-3	PH07B	Solid	10/13/22 15:15	10/17/22 12:12	4'
890-3207-4	PH07C	Solid	10/13/22 15:20	10/17/22 12:12	7'
890-3207-5	PH07D	Solid	10/13/22 15:30	10/17/22 12:12	11'

Revised Date: 08/25/2020 Rev. 2020.

Date/Time

Received by: (Signature)

Chain of Custody

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

Environment Testing

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Xenco

Work Order No:

Project Name Rec Belline General Characht Greech Greeche St.	Name Face Bank												
St. 2 Nat Park Hard Address: 3104 Corregary State Choice Park P	UST/PST PRP Brownfields RRC level II Level III PST/UST TRRP less EDD ADaPT Other: Preservative CC None: NO DI Cool: Cool Me H2504: H2 H3P H2504: H2 H3P H2504: H2 H3P H3PO2: H2 H3P Nad Span Nad Span Incadent I	Project Manager:	Ren Beli	_	Bill to	o: (if different)		Garret	-t Green		Work Orde	r Comments	
Si 2 2 Nat'l Parks Haw Address Si 04 E Greened St Reporting: Levell	es: EDD AD REAL HILL LEVELING AD AD AD AD AD AD AD AD AD A	Company Name:	Finsolum, 1	7	Com	pany Name:		XTO 6	nergy		PST PRP	Brownfields 🗌 RRC	
Cart S b add NH 6822C Cov, save 2ip. Cert S b add NH 6822C Cov, save 2ip. Cert S b add NH Ceve iii Deliverables. EDD ND No No No No No No	es: EDD	Address:		Parks H	Addr	ess:	3	04 E (Greene Si	State of Project:			
1969 1969	Preservative Preservative Pres	City, State ZIP:	Carlsbad. r	1M 882		State ZIP:	Cò	1sbad.	NM 88220	Reporting: Level	Level		IP Level IV
Name	Preservative None: NO Cool: Cool H ₂ SO 4: H ₂ H ₃ PO 4: HP NaHSO 4: NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate-NaOH NaOH+Ascorbic Ac Sample Con Inc. A. Cert I APP 2. 2.19 I H + O. Co. ST I K Se Ag SiO ₂ Na Sr TI Sn U V Zn Hg: 1631/245.1 / 7470 / 7471	Phone:	969 854	.0852	ail:	beciil	Och	isolum	3	- 11			
None: NO Note:	None: NO Cool: Cool H ₂ SO 4: H ₂ H ₃ PO 4: HP NaH5O 4: NABIS Na 25 05: NASO 3 Zn Acetate-NaOH NaOH+Ascorbic Ac Sample Con Inc. dCn 1 Inc.	Project Name:	JRW 163	H	Turn Aroun	p			ANALYSIS REQU	EST		Preserva	tive Codes
10 10 10 10 10 10 10 10	If K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	er:	0361558098				es.					None: NO	DI Water: H ₂ O
PHC T Sample Matrix Ma	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/		32.38042.70	3.88428ve	Date:							Cool: Cool	MeOH: Me
The Received Integer The Bub T	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/		Meredith R	ELECTS TAT	starts the day re	ceived by			_	-	-	HCL: HC	HNO 3: HN
Ves No Themometer ID: Themometer I	If K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/			_	lab, if received b		-					H ₂ S0 ₄ : H ₂	NaOH: Na
Ves No Thermometer D. Ves No Thermometer D. Ves No Thermometer D. Ves No W.A Correction Factor. Corrected Temperature Reading: 3 · C W.A W.A Corrected Temperature Reading: 3 · C W.A If K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	SAMPLE RECEIPT	Jenyp Blank:	_			eters					H ₃ PO ₄ : HP		
Ves No (MA) Temperature Reading: 3 - 0 Was No (MA) Wast	If K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	Samples Received Intac		Thermometer ID:	-	6	rame	50				NaHSO 4: NABI	10
Yes No Wix Temperature Reading: 3 · C W 2	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	Cooler Custody Seals:	Yes No	Correction Factor:			64	q	800-3207 Chain	of Custody	_	Na 25 20 3: NaSC	3
Corrected Temperature: 3 \ Comp Cont	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	Sample Custody Seals:	Yes No	Temperature Read		8.8			0.000	60000		Zn Acetate+Na	OH: Zn
15 10 2 1	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	Total Containers:		Corrected Tempe	نة	3.60	ΧΞ			_	_	NaOH+Ascorbi	: Acid: SAPC
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1515 4'	Ii K Se Ag SiO ₂ Na Sr Hg: 1631/245.1/	PHOT	4		-	-	-	-				1 APP 2 Z	9649599
1520 1'	Ii K Se Ag SiO ₂ Na Sr TI Hg: 1631/245.1/7	PHO"	R	5/	-							1	
1530 11'	Ii K Se Ag SiO ₂ Na Sr Tl Hg: 1631/245.1/74	P.40-1		6/	-	1						65TC	enter:
BRCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be Cd 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	PHCT	→	4	530 11	>	>	→	9			11406	01001
8RCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 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						1	4	2				
BRCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be Cd 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			\	1								
BRCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	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		1										
BRCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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												
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		Circle Method(s) a	ind Metal(s) to be and		CLP / SPLP 0	סוט . סורת	OD AS C	מ מב כמ כו	CO CO LO MILI MO MI	0 11 60 2	1.19. 100.1		

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)

6 0 Date/Time ectrilo Received by: (Signature) inquished by: (Signature)

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10/20/2022

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3207-1 SDG Number: 03E1558098

Login Number: 3207 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3207-1 SDG Number: 03E1558098

List Source: Eurofins Midland

Login Number: 3207 List Number: 2 List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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

<6mm (1/4").



Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3208-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

Authorized for release by: 10/20/2022 9:38:11 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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3208-1
SDG: 03E1558098

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QC Association Summary	14
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Definitions/Glossary

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Qualifiers

GC VOA

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

*- LCS and/or LCSD is outside acceptance limits, low 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

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

Eurofins Carlsbad

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Case Narrative

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3208-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3208-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH06 (890-3208-1), PH06A (890-3208-2), PH06B (890-3208-3) and PH06C (890-3208-4).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37188 and analytical batch 880-37190 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-37188 and analytical batch 880-37190 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC

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

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Client Sample Results

Client: Ensolum Job ID: 890-3208-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH06

Lab Sample ID: 890-3208-1 Date Collected: 10/13/22 14:40 Matrix: Solid Date Received: 10/17/22 12:12

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/18/22 11:00	10/18/22 19:00	1
Toluene	0.0105		0.00199	mg/Kg		10/18/22 11:00	10/18/22 19:00	1
Ethylbenzene	0.00269		0.00199	mg/Kg		10/18/22 11:00	10/18/22 19:00	1
m-Xylene & p-Xylene	0.0110		0.00398	mg/Kg		10/18/22 11:00	10/18/22 19:00	1
o-Xylene	0.00286		0.00199	mg/Kg		10/18/22 11:00	10/18/22 19:00	1
Xylenes, Total	0.0139		0.00398	mg/Kg		10/18/22 11:00	10/18/22 19:00	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130			10/18/22 11:00	10/18/22 19:00	
1,4-Difluorobenzene (Surr)	97		70 - 130			10/18/22 11:00	10/18/22 19:00	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0271		0.00398	mg/Kg			10/19/22 11:52	1
	•		•	Unit	n	Prenared	Analyzed	Dil Far
Method: SW846 8015 NM - Diese Analyte	•	ics (DRO) (GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
	•	Qualifier	•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 10/19/22 09:56	
Analyte	Result <49.9	Qualifier U	RL 49.9		<u>D</u>	Prepared		
Analyte Total TPH Method: SW846 8015B NM - Die:	Result <49.9 sel Range Orga Result	Qualifier Unics (DRO) Qualifier	RL 49.9		<u>D</u>	Prepared Prepared		1
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	Result <49.9 sel Range Orga Result	Qualifier U	RL 49.9 (GC)	mg/Kg	_ =	· ·	10/19/22 09:56	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.9 sel Range Orga Result	Qualifier U nics (DRO) Qualifier U *- *1	RL 49.9 (GC)	mg/Kg	_ =	Prepared	10/19/22 09:56 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10	Result <49.9 sel Range Orga Result <49.9	Qualifier U nics (DRO) Qualifier U *- *1	RL 49.9 (GC) RL 49.9	mg/Kg Unit mg/Kg	_ =	Prepared 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 17:06	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.9	Qualifier U nics (DRO) Qualifier U *- *1 U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg	_ =	Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 17:06 10/18/22 17:06	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result < 49.9 Sel Range Orga Result < 49.9 < 49.9 < 49.9	Qualifier U nics (DRO) Qualifier U *- *1 U	RL 49.9 (GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg	_ =	Prepared 10/18/22 08:38 10/18/22 08:38	10/19/22 09:56 Analyzed 10/18/22 17:06 10/18/22 17:06	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result <49.9	Qualifier U nics (DRO) Qualifier U *- *1 U	RL 49.9 (GC) RL 49.9 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg	_ =	Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared	10/19/22 09:56 Analyzed 10/18/22 17:06 10/18/22 17:06 10/18/22 17:06 Analyzed	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result <49.9	Qualifier U nics (DRO) Qualifier U *- *1 U Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	_ =	Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared 10/18/22 08:38	Analyzed 10/18/22 17:06 10/18/22 17:06 10/18/22 17:06 Analyzed 10/18/22 17:06	Dil Fac
Analyte Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result <49.9	Qualifier U nics (DRO) Qualifier U *- *1 U Qualifier	RL 49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg	_ =	Prepared 10/18/22 08:38 10/18/22 08:38 10/18/22 08:38 Prepared 10/18/22 08:38	Analyzed 10/18/22 17:06 10/18/22 17:06 10/18/22 17:06 Analyzed 10/18/22 17:06	Dil Fac

Client Sample ID: PH06A Lab Sample ID: 890-3208-2

Date Collected: 10/13/22 14:45 Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
Toluene	0.00556		0.00200	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/18/22 11:00	10/18/22 19:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130			10/18/22 11:00	10/18/22 19:21	1

Eurofins Carlsbad

Matrix: Solid

Job ID: 890-3208-1 SDG: 03E1558098

Project/Site: JRU 163H Client Sample ID: PH06A

Lab Sample ID: 890-3208-2

Matrix: Solid

Date Received: 10/17/22 12:12 Sample Depth: 2'

Date Collected: 10/13/22 14:45

Client: Ensolum

Method: SW846 8021B	 Volatile Organic Compounds ((GC) (Continued)
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Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1.4-Difluorobenzene (Surr)	85	70 - 130	10/18/22 11:00	10/18/22 19:21	1

Method: TAI	SOP Total BTEX	- Total BTFX	Calculation
Mictilou. IAL	- OOI TOTAL DIEA	- IOIGI DIEA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.00556		0.00399	mg/Kg			10/19/22 11:52	1

1		
Method: SW846 8015 NM -	Discal Dance Occasion	(DDO) (CC)
I WETDOO'S WAAH AU15 NIVI .	. Diesei Ranne Ornanics	(I)R()) ((=(.)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/19/22 09:56	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	50.0	mg/Kg		10/18/22 08:38	10/18/22 17:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 17:27	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 17:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	113	70 - 130	10/18/22 08:38	10/18/22 17:27	1
o-Terphenyl	100	70 - 130	10/18/22 08:38	10/18/22 17:27	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qu	ualifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.6	5.00	mg/Kg			10/19/22 20:44	1

Client Sample ID: PH06B Lab Sample ID: 890-3208-3

Date Collected: 10/13/22 14:50 Date Received: 10/17/22 12:12

Sample Depth: 4'

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

Analyte Result Qualifier RL Unit D Benzene <0.00201 U 0.00201 mg/Kg Toluene <0.00201 U 0.00201 mg/Kg Ethylbenzene <0.00201 U 0.00201 mg/Kg m-Xylene & p-Xylene <0.00402 U 0.00402 mg/Kg							
Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<0.00201	U	0.00201	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
<0.00201	U	0.00201	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
<0.00201	U	0.00201	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
<0.00402	U	0.00402	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
<0.00201	U	0.00201	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
<0.00402	U	0.00402	mg/Kg		10/18/22 11:00	10/18/22 19:41	1
%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
99		70 - 130			10/18/22 11:00	10/18/22 19:41	1
	Result <0.00201 <0.00201 <0.00201 <0.00201 <0.00402 <0.00201 <0.00402 <0.00402 %Recovery	Result Qualifier	Result Qualifier RL <0.00201	Result Qualifier RL Unit <0.00201	Result Qualifier RL Unit D <0.00201	Result Qualifier RL Unit D Prepared <0.00201	Result Qualifier RL Unit D Prepared Analyzed <0.00201

4-Bromofluorobenzene (Surr)	99	70 - 130	10/18/22 11:00	10/18/22 19:41	1
1,4-Difluorobenzene (Surr)	99	70 - 130	10/18/22 11:00	10/18/22 19:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00402	U	0.00402	mg/Kg			10/19/22 11:52	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/19/22 09:56	1

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Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3208-3

10/19/22 20:52

Matrix: Solid

Client Sample Results

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH06B

Date Collected: 10/13/22 14:50 Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	49.8	mg/Kg		10/18/22 08:38	10/18/22 17:48	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 17:48	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 17:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	107		70 - 130			10/18/22 08:38	10/18/22 17:48	1
o-Terphenyl	94		70 - 130			10/18/22 08:38	10/18/22 17:48	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Client Sample ID: PH06C Lab Sample ID: 890-3208-4

171

5.05

mg/Kg

Date Collected: 10/13/22 15:00 Date Received: 10/17/22 12:12

Sample Depth: 7'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/18/22 11:00	10/18/22 20:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			10/18/22 11:00	10/18/22 20:02	1
1,4-Difluorobenzene (Surr)	88		70 - 130			10/18/22 11:00	10/18/22 20:02	1
Method: TAL SOP Total BTEX - 1	otal BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/19/22 11:52	1
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/19/22 09:56	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	50.0	mg/Kg		10/18/22 08:38	10/18/22 18:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 18:09	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 18:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			10/18/22 08:38	10/18/22 18:09	1

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12

Matrix: Solid

Client Sample Results

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH06C Lab Sample ID: 890-3208-4

Date Collected: 10/13/22 15:00
Date Received: 10/17/22 12:12

Sample Depth: 7'

	Method: MCAWW 300.0 - Anions, I	on Chromato	graphy - S	oluble					
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Į	Chloride	75.2		4.97	mg/Kg			10/19/22 21:01	1

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4.6

13

DFBZ = 1,4-Difluorobenzene (Surr)

Surrogate Summary

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-20420-A-11-D MS	Matrix Spike	91	107	
880-20420-A-11-E MSD	Matrix Spike Duplicate	115	106	
890-3208-1	PH06	108	97	
890-3208-2	PH06A	92	85	
890-3208-3	PH06B	99	99	
890-3208-4	PH06C	115	88	
LCS 880-37187/1-A	Lab Control Sample	108	101	
LCSD 880-37187/2-A	Lab Control Sample Dup	91	112	
MB 880-37187/5-A	Method Blank	82	95	
Surrogate Legend				

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-20421-A-41-F MS	Matrix Spike	108	85	
880-20421-A-41-G MSD	Matrix Spike Duplicate	85	72	
890-3208-1	PH06	100	87	
890-3208-2	PH06A	113	100	
890-3208-3	PH06B	107	94	
890-3208-4	PH06C	102	90	
LCS 880-37188/2-A	Lab Control Sample	91	101	
LCSD 880-37188/3-A	Lab Control Sample Dup	95	86	
MB 880-37188/1-A	Method Blank	133 S1+	124	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3208-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37187/5-A

Matrix: Solid Analysis Batch: 37185 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37187

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/18/22 08:29	10/18/22 10:54	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/18/22 08:29	10/18/22 10:54	1

MB MB

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		70 - 130	10.	/18/22 08:29	10/18/22 10:54	1
1.4-Difluorobenzene (Surr)	95		70 - 130	10.	/18/22 08:29	10/18/22 10:54	1

Lab Sample ID: LCS 880-37187/1-A

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37187

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1065		mg/Kg		107	70 - 130	
Toluene	0.100	0.1059		mg/Kg		106	70 - 130	
Ethylbenzene	0.100	0.1126		mg/Kg		113	70 - 130	
m-Xylene & p-Xylene	0.200	0.2390		mg/Kg		120	70 - 130	
o-Xylene	0.100	0.1175		mg/Kg		117	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	108	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-37187/2-A

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37187

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1219		mg/Kg		122	70 - 130	13	35	
Toluene	0.100	0.1041		mg/Kg		104	70 - 130	2	35	
Ethylbenzene	0.100	0.09897		mg/Kg		99	70 - 130	13	35	
m-Xylene & p-Xylene	0.200	0.2004		mg/Kg		100	70 - 130	18	35	
o-Xylene	0.100	0.09840		mg/Kg		98	70 - 130	18	35	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1.4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 880-20420-A-11-D MS

Matrix: Solid

Analysis Batch: 37185

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37187

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.100	0.09868		mg/Kg		98	70 - 130	
Toluene	< 0.00200	U	0.100	0.09554		mg/Kg		95	70 - 130	

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 37187

Client: Ensolum Job ID: 890-3208-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 880-20420-A-11-D MS

Matrix: Solid Analysis Batch: 37185

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00200	U	0.100	0.09684		mg/Kg		97	70 - 130	
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1854		mg/Kg		93	70 - 130	
o-Xylene	<0.00200	U	0.100	0.09157		mg/Kg		91	70 - 130	

Limits

MS MS Surrogate %Recovery Qualifier

70 - 130 4-Bromofluorobenzene (Surr) 91 1,4-Difluorobenzene (Surr) 107 70 - 130

Lab Sample ID: 880-20420-A-11-E MSD

Matrix: Solid Analysis Batch: 37185

Analysis Batch: 37185									Prep	Batch:	37187
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0998	0.1005		mg/Kg		101	70 - 130	2	35
Toluene	<0.00200	U	0.0998	0.1013		mg/Kg		101	70 - 130	6	35
Ethylbenzene	<0.00200	U	0.0998	0.1066		mg/Kg		107	70 - 130	10	35
m-Xylene & p-Xylene	<0.00401	U	0.200	0.2320		mg/Kg		116	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1138		mg/Kg		114	70 - 130	22	35

MSD MSD Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 115 1,4-Difluorobenzene (Surr) 106 70 - 130

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

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Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37188

	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Gasoline Range Organics	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 10:43	1
	(GRO)-C6-C10								
	Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 10:43	1
	C10-C28)								
	Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 10:43	1
ı									

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130	10/18/22 08:38	10/18/22 10:43	1
o-Terphenyl	124		70 - 130	10/18/22 08:38	10/18/22 10:43	1

Lab Sample ID: LCS 880-37188/2-A Client Sample ID: Lab Control Sample

Analysis Batch: 37190

Released to Imaging: 5/9/2023 1:49:46 PM

Matrix: Solid

LCS LCS Spike %Rec Added Qualifier Analyte Result Unit %Rec Limits 1000 81 70 - 130 Gasoline Range Organics 814 2 mg/Kg (GRO)-C6-C10

1000

Diesel Range Organics (Over C10-C28)

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Prep Type: Total/NA

Prep Batch: 37188

943.3

mg/Kg

94

70 - 130

Job ID: 890-3208-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: LCS 880-37188/2-A Client Sample ID: Lab Control Sample

Matrix: Solid

Analysis Batch: 37190

Prep Type: Total/NA

Prep Batch: 37188

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 91 70 - 130 o-Terphenyl 101 70 - 130

Lab Sample ID: LCSD 880-37188/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 37190

Prep Type: Total/NA

Prep Batch: 37188

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 566.2 *- *1 57 70 - 13036 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 862.6 mg/Kg 86 70 - 1309 20

C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 95 70 - 130 1-Chlorooctane 86 70 - 130 o-Terphenyl

Lab Sample ID: 880-20421-A-41-F MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 37190

Prep Type: Total/NA

Prep Batch: 37188

MS MS Sample Sample Spike Analyte Added Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U *- *1 999 1067 mg/Kg 107 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1033 mg/Kg 103 70 - 130

C10-C28)

MS MS

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 880-20421-A-41-G MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Analysis Batch: 37190

Prep Type: Total/NA

Prep Batch: 37188

MSD MSD RPD Spike %Rec Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics U *- *1 997 933.4 94 <49.9 mg/Kg 70 - 130 13 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 997 903.4 mg/Kg 91 70 - 130 13 20

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	72		70 - 130

Dil Fac

QC Sample Results

Client: Ensolum Job ID: 890-3208-1 Project/Site: JRU 163H SDG: 03E1558098

RL

5.00

Spike

Added

250

Spike

Added

250

Spike

Added

250

Spike

Added

250

Unit

LCS LCS

LCSD LCSD

MS MS

Qualifier

Qualifier

Qualifier

Result

267.9

Result

263.6

Result

431.9

mg/Kg

Unit

Unit

Unit

mg/Kg

mg/Kg

D

D

Prepared

%Rec

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37168/1-A

Matrix: Solid

Analysis Batch: 37251

MB MB Result Qualifier

Analyte Chloride <5.00 U

Lab Sample ID: LCS 880-37168/2-A **Matrix: Solid**

Analysis Batch: 37251

Analyte

Chloride

Lab Sample ID: LCSD 880-37168/3-A **Matrix: Solid**

Analysis Batch: 37251

Analyte Chloride

Lab Sample ID: 890-3207-A-1-E MS

Matrix: Solid

Analyte

Analysis Batch: 37251

Chloride

Lab Sample ID: 890-3207-A-1-F MSD **Matrix: Solid**

Analysis Batch: 37251

Sample Sample Analyte Result Qualifier Chloride 195

Sample Sample

Qualifier

Result

195

Client Sample ID: Method Blank

Analyzed

Prep Type: Soluble

10/19/22 18:55

Client Sample ID: Lab Control Sample

Prep Type: Soluble

107 90 - 110

%Rec

Limits

Client Sample ID: Lab Control Sample Dup

%Rec

Prep Type: Soluble

RPD %Rec Limits RPD Limit 105 90 - 110

Client Sample ID: Matrix Spike

Prep Type: Soluble

%Rec %Rec Limits 90 - 110 mg/Kg

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

MSD MSD %Rec RPD Result Qualifier Unit %Rec Limits RPD Limit 453.1 mg/Kg 104 90 - 110 20

QC Association Summary

Client: Ensolum Job ID: 890-3208-1 Project/Site: JRU 163H SDG: 03E1558098

GC VOA

Analysis Batch: 37185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Total/NA	Solid	8021B	37187
890-3208-2	PH06A	Total/NA	Solid	8021B	37187
890-3208-3	PH06B	Total/NA	Solid	8021B	37187
890-3208-4	PH06C	Total/NA	Solid	8021B	37187
MB 880-37187/5-A	Method Blank	Total/NA	Solid	8021B	37187
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	8021B	37187
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37187
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	8021B	37187
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37187

Prep Batch: 37187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Total/NA	Solid	5035	
890-3208-2	PH06A	Total/NA	Solid	5035	
890-3208-3	PH06B	Total/NA	Solid	5035	
890-3208-4	PH06C	Total/NA	Solid	5035	
MB 880-37187/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37187/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37187/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-20420-A-11-D MS	Matrix Spike	Total/NA	Solid	5035	
880-20420-A-11-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-3208-1	PH06	Total/NA	Solid	Total BTEX
890-3208-2	PH06A	Total/NA	Solid	Total BTEX
890-3208-3	PH06B	Total/NA	Solid	Total BTEX
890-3208-4	PH06C	Total/NA	Solid	Total BTEX

GC Semi VOA

Prep Batch: 37188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Total/NA	Solid	8015NM Prep	
890-3208-2	PH06A	Total/NA	Solid	8015NM Prep	
890-3208-3	PH06B	Total/NA	Solid	8015NM Prep	
890-3208-4	PH06C	Total/NA	Solid	8015NM Prep	
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Total/NA	Solid	8015B NM	37188
890-3208-2	PH06A	Total/NA	Solid	8015B NM	37188
890-3208-3	PH06B	Total/NA	Solid	8015B NM	37188
890-3208-4	PH06C	Total/NA	Solid	8015B NM	37188
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015B NM	37188
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37188

QC Association Summary

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC Semi VOA (Continued)

Analysis Batch: 37190 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37188
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	37188
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37188

Analysis Batch: 37287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Total/NA	Solid	8015 NM	
890-3208-2	PH06A	Total/NA	Solid	8015 NM	
890-3208-3	PH06B	Total/NA	Solid	8015 NM	
890-3208-4	PH06C	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Soluble	Solid	DI Leach	
890-3208-2	PH06A	Soluble	Solid	DI Leach	
890-3208-3	PH06B	Soluble	Solid	DI Leach	
890-3208-4	PH06C	Soluble	Solid	DI Leach	
MB 880-37168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3207-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3207-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3208-1	PH06	Soluble	Solid	300.0	37168
890-3208-2	PH06A	Soluble	Solid	300.0	37168
890-3208-3	PH06B	Soluble	Solid	300.0	37168
890-3208-4	PH06C	Soluble	Solid	300.0	37168
MB 880-37168/1-A	Method Blank	Soluble	Solid	300.0	37168
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	300.0	37168
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37168
890-3207-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	37168
890-3207-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37168

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Client Sample ID: PH06

Client: Ensolum

Project/Site: JRU 163H

Date Collected: 10/13/22 14:40 Date Received: 10/17/22 12:12 Lab Sample ID: 890-3208-1

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 19:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37318	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37287	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 17:06	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 20:35	CH	EET MID

Client Sample ID: PH06A Lab Sample ID: 890-3208-2 Date Collected: 10/13/22 14:45

Date Received: 10/17/22 12:12

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 19:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37318	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37287	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 17:27	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 20:44	CH	EET MID

Client Sample ID: PH06B Lab Sample ID: 890-3208-3 Date Collected: 10/13/22 14:50

Date Received: 10/17/22 12:12

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 19:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37318	10/19/22 11:52	SM	EET MID
Total/NA	Analysis	8015 NM		1			37287	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 17:48	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 20:52	CH	EET MID

Client Sample ID: PH06C Lab Sample ID: 890-3208-4 Date Collected: 10/13/22 15:00 **Matrix: Solid**

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	37187	10/18/22 11:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37185	10/18/22 20:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37318	10/19/22 11:52	SM	EET MID

Lab Chronicle

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH06C

Date Collected: 10/13/22 15:00
Date Received: 10/17/22 12:12

Lab Sample ID: 890-3208-4 Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37287	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 18:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 21:01	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-3208-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority Texas		ogram	Identification Number	Expiration Date
		ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report hi	it the laboratory is not certific	ed by the governing authority. This list ma	y include analytes for y
the agency does not of	. ,	it the laboratory is not contin	ou by the governing additionty. This list the	ay include analytes for t
0 ,	. ,	Matrix	Analyte	y include analytes for v
the agency does not of	fer certification.	•	, , ,	

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Method Summary

Job ID: 890-3208-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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: JRU 163H

Job ID: 890-3208-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3208-1	PH06	Solid	10/13/22 14:40	10/17/22 12:12	0.5'
890-3208-2	PH06A	Solid	10/13/22 14:45	10/17/22 12:12	2'
890-3208-3	PH06B	Solid	10/13/22 14:50	10/17/22 12:12	4'
890-3208-4	PH06C	Solid	10/13/22 15:00	10/17/22 12:12	7'

Date/Time

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

Environment Testing

💸 eurofins

Work Order No:

	Rein Rein	111		Rill to: (if different)	-	7	Carrett Careen	Work Order Co	Work Order Comments
Company Name:	Fredum L	777		Company Name:	2 4:	XTO	D Encres	Program: UST/PST ☐ PRP☐	Brownfields RRC Superfund
	3122 Nat' Parks Hwy Address:	Park	1 - Hard	Address:		3104	3104 E Greenc St	State of Project:	
e ZIP:	Carlsbad, NM 88220	ZZ	8220	City, State ZIP:		Cartsk	LANSBAR, NM 88220	Reporting: Level II Level III	I □ PST/UST □ TRRP □ LevelIV □
	989.854.0854	4.085	Email:		9	ensol	bbelill@ensolum com	Deliverables: EDD	ADaPT Other:
Project Name:	11 14 11 214	1	Turn	Turn Around			ANALYSIS REQUEST	QUEST	Preservative Codes
er:	03E1558098	366	Routine	Rush	Pres. Code				None: NO DI Water: H ₂ O
Project Location: '52	32, 38042, -103, 884 39 Date:	103,884	Bul Date:						10
Sampler's Name:	Meredith Roberts	Roberts	TAT starts the	TAT starts the day received by					
PO #:				eived by 4:30pm	9				H ₂ S0 4: H ₂ NaOH: Na
SAMPLE RECEIPT	Temp Blank:	No No	Wet Ice:	ON (S)	eter				H ₃ PO ₄ : HP
Samples Received Intact:	(Res) No	Thermometer ID:	er ID:	Three (B)	ram				NaHSO 4: NABIS
Cooler Custody Seals:	Yes No ATA	Correction Factor:	Factor:	eu-	eq		P		Na ₂ S ₂ O ₃ : NaSO ₃
Sample Custody Seals:	Yes No N/A	Temperature Reading:	re Reading:	8.		X=	Ų.		Zn Acetate+NaOH: Zn
Total Containers:)	Corrected 1	Corrected Temperature:	3.6		H,		890-3208 Chain of Custody	NaOH+Ascorbic Acid: SAPC
Sample Identification	on Matrix	Date Sampled	Time	Depth Grab/	# of Cont	B.	- - - -		Sample Comments
PHOS	S	101312	1440	0.5	E	X	X		Incident #:
PHOEA		_		12	_				nApp1219649599
PHOER			145c	4,					
PHOP	→	>	1500	1/4	})	•		Cost Center
					1	1	2000		140601001
				1					
			1						
\									
Total 2007 / 6010	200 8 / 6020:		SRCRA 13DPM	Toxac 11		Is Ba Be	B Cd Ca Cr Co Cu Fe Pb	AI Sh As Ba Be B Cd Ca Cr Co Cu Fe Pb Ma Mn Mo Ni K Se Aa SiO, Na Sr TI Sn U V Zn	Na Sr TI Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	Metal(s) to be an		TCLP/S	6010 : 8RG	CRA Sb	As Ba Be	TCLP/SPLP6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	i Se Ag TI U Hg: 1631 /	Hg: 1631 / 245.1 / 7470 / 7471
	MICES 12/ CO PC E	2011PI	1		1				

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. 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

Received by: (Signature) Relinquished by: (Signature) 12 Date/Time CE17190 Received by: (Signature) Relinquished by: (Signature)

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3208-1

SDG Number: 03E1558098

Login Number: 3208 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3208-1 SDG Number: 03E1558098

Login Number: 3208
List Source: Eurofins Midland
List Number: 2
List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").







ANALYTICAL REPORT

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

Laboratory Job ID: 890-3209-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill



Authorized for release by: 10/24/2022 4:08:09 PM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Review your project results through EOL

.....LINKS

Received by OCD: 1/6/2023 9:24:55 AM

Have a Question?



Visit us at:

www.eurofinsus.com/Env Released to Imaging: 5/9/2023 1:49:46 PM 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

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

Client: Ensolum
Project/Site: JRU 163H

Laboratory Job ID: 890-3209-1
SDG: 03E1558098

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Eurofins Carlsbad 10/24/2022

Definitions/Glossary

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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 Description

*- LCS and/or LCSD is outside acceptance limits, low biased.

*1 LCS/LCSD RPD exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

S1+

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.

Surrogate recovery exceeds control limits, high biased.

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

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Case Narrative

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3209-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3209-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA

Method 8021B: The following sample was diluted due to the nature of the sample matrix: (890-3209-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37188 and analytical batch 880-37190 was outside the upper control limits.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-37188 and analytical batch 880-37190 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

HPLC/IC

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

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Lab Sample ID: 890-3209-1

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH05

Date Collected: 10/13/22 14:20 Date Received: 10/17/22 12:12

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U F1	0.00198	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
Toluene	<0.00198	U F2 F1	0.00198	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
Ethylbenzene	<0.00198	U F1	0.00198	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
m-Xylene & p-Xylene	<0.00397	U F1	0.00397	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
o-Xylene	<0.00198	U F1	0.00198	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
Xylenes, Total	<0.00397	U F1	0.00397	mg/Kg		10/17/22 14:12	10/22/22 12:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130			10/17/22 14:12	10/22/22 12:44	1
1,4-Difluorobenzene (Surr)	103		70 - 130			10/17/22 14:12	10/22/22 12:44	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00397	U	0.00397	mg/Kg			10/24/22 16:26	1
Mother dr CIMO4C CO4E NIM	Diagol Bonno Onnon	: (DDO) ((00)					

method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
	Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Total TPH	<49.9 L	J	49.9	mg/Kg			10/19/22 09:56	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	49.9	mg/Kg		10/18/22 08:38	10/18/22 18:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 18:30	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/18/22 08:38	10/18/22 18:30	1

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98	70 - 130	10/18/22 08:3	8 10/18/22 18:30	1
o-Terphenyl	89	70 - 130	10/18/22 08:3	8 10/18/22 18:30	1

Method: MCAWW 300.0 - Anions, ion Chromatography - Soluble									
	Analyte	Result C	Qualifier RL	Unit	D	Prepared	Analyzed	Dil Fac	
	Chloride	368	25.2	mg/Kg			10/19/22 21:17	5	

Client Sample ID: PH05A

Date Collected: 10/13/22 14:25

Lab Sample ID: 890-3209-2

Matrix: Solid

Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
Toluene	0.00380		0.00202	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		10/17/22 14:12	10/22/22 13:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130			10/17/22 14:12	10/22/22 13:04	1

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Lab Sample ID: 890-3209-2

Client Sample Results

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH05A

Date Collected: 10/13/22 14:25 Date Received: 10/17/22 12:12

Sample Depth: 2'

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

Surrogate	%Recovery Qual	lifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101	70 - 130	10/17/22 14:12	10/22/22 13:04	1

Method: TAL So	OP Total BTFX	- Total BTEX	Calculation
INICIIIOG. IAL O	JI IOLAI DILA	- IUlai DILA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00403	U	0.00403	mg/Kg			10/24/22 16:26	1

Analyte	Result (Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 l	U	49.8	mg/Kg			10/19/22 09:56	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	49.8	mg/Kg		10/18/22 08:38	10/18/22 18:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 18:51	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 18:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	110	70 - 130	10/18/22 08:38	10/18/22 18:51	1
o-Terphenyl	98	70 - 130	10/18/22 08:38	10/18/22 18:51	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifie		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	199	4.98	mg/Kg			10/19/22 21:09	1

Client Sample ID: PH05B Lab Sample ID: 890-3209-3

Date Collected: 10/13/22 14:30 Date Received: 10/17/22 12:12

Sample Depth: 4'

Method: SW8	146 8021R	- Volatile O	rganic Com	nounds (GC)
i welliou. Syvo	340 OUZ ID	- voiatile o	riualiic Coli	Doulius (GC)

Michiga. Offoro COZ ID - Volati	ne organie oomp	ounus (CC)	,					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/17/22 14:12	10/22/22 13:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			10/17/22 14:12	10/22/22 13:25	1
1,4-Difluorobenzene (Surr)	102		70 - 130			10/17/22 14:12	10/22/22 13:25	1

1,4-Difluorobenzene	(Surr) 10	02 70 - 130	10/17/22 14:12	10/22/2
_				

Method: TAL SOP Total BTEX - Total BTEX Calculation								
	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Total BTEX	<0.00399 U	0.00399	mg/Kg			10/24/22 16:26	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/19/22 09:56	1

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Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3209-3

Job ID: 890-3209-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH05B

Date Collected: 10/13/22 14:30 Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *- *1	49.8	mg/Kg		10/18/22 08:38	10/18/22 19:12	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 19:12	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/18/22 08:38	10/18/22 19:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130			10/18/22 08:38	10/18/22 19:12	1
o-Terphenyl	97		70 - 130			10/18/22 08:38	10/18/22 19:12	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte	Dogult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte Prepared Analyzed 4.99 Chloride 10/19/22 21:42 86.0 mg/Kg **Client Sample ID: PH05C** Lab Sample ID: 890-3209-4

Date Collected: 10/13/22 14:35

Date Received: 10/17/22 12:12

Sample Depth: 5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 13:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130			10/17/22 14:12	10/22/22 13:45	1
1,4-Difluorobenzene (Surr)	104		70 - 130			10/17/22 14:12	10/22/22 13:45	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
T L LDTEV	<0.00402	11	0.00400				10/01/00 10 00	
Total BTEX	~0.00402	U	0.00402	mg/Kg			10/24/22 16:26	1
• •				mg/Kg			10/24/22 16:26	1
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					·
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) (GC)	mg/kg	<u>D</u>	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)		<u>D</u>	Prepared		·
Method: SW846 8015 NM - Diese Analyte	Result <50.0	ics (DRO) (Qualifier	RL 50.0	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ Result <50.0 sel Range Organ	ics (DRO) (Qualifier	RL 50.0	Unit	<u>D</u>	Prepared Prepared	Analyzed	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <50.0 sel Range Orga Result	Qualifier U	RL 50.0	Unit mg/Kg		<u> </u>	Analyzed 10/19/22 09:56	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte	el Range Organ Result <50.0 sel Range Orga Result	Qualifier Unics (DRO) Qualifier	GC) RL 50.0 (GC) RL	Unit mg/Kg		Prepared	Analyzed 10/19/22 09:56 Analyzed	Dil Fac Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <50.0 sel Range Orga Result	Qualifier U nics (DRO) Qualifier U v*- *1	GC) RL 50.0 (GC) RL	Unit mg/Kg		Prepared	Analyzed 10/19/22 09:56 Analyzed	Dil Fac Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0	Qualifier U nics (DRO) Qualifier U v*- *1	GC) RL 50.0 (GC) RL 50.0	Unit mg/Kg Unit mg/Kg		Prepared 10/18/22 08:38	Analyzed 10/19/22 09:56 Analyzed 10/18/22 19:33	Dil Fac Dil Fac 1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	el Range Organ Result <50.0 sel Range Orga Result <50.0	cics (DRO) (One of the control of th	GC) RL 50.0 (GC) RL 50.0	Unit mg/Kg Unit mg/Kg		Prepared 10/18/22 08:38	Analyzed 10/19/22 09:56 Analyzed 10/18/22 19:33	Dil Fac Dil Fac 1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0	cics (DRO) ((Qualifier U nics (DRO) Qualifier U *- *1 U	GC) RL 50.0 (GC) RL 50.0 50.0	Unit mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	Analyzed 10/19/22 09:56 Analyzed 10/18/22 19:33 10/18/22 19:33	Dil Fac Dil Fac 1 1 1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	el Range Organ Result <50.0 sel Range Orga Result <50.0 <50.0 <50.0	cics (DRO) ((Qualifier U nics (DRO) Qualifier U *- *1 U	GC) RL 50.0 (GC) RL 50.0 50.0 50.0	Unit mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:38 10/18/22 08:38	Analyzed 10/19/22 09:56 Analyzed 10/18/22 19:33 10/18/22 19:33	Dil Fac Dil Fac 1

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10/24/2022

Client Sample Results

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH05C Lab Sample ID: 890-3209-4

Date Collected: 10/13/22 14:35

Matrix: Solid

Date Received: 10/17/22 12:12 Sample Depth: 5'

 Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

 Analyte
 Result
 Qualifier
 RL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Chloride
 47.6
 5.02
 mg/Kg
 10/19/22 21:51
 1

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Surrogate Summary

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

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)	
890-3209-1	PH05	96	103	
890-3209-1 MS	PH05	97	102	
890-3209-1 MSD	PH05	95	102	
890-3209-2	PH05A	105	101	
890-3209-3	PH05B	93	102	
890-3209-4	PH05C	95	104	
LCS 880-37166/1-A	Lab Control Sample	92	99	
LCSD 880-37166/2-A	Lab Control Sample Dup	93	100	
MB 880-37159/5-A	Method Blank	93	104	
MB 880-37166/5-A	Method Blank	91	105	

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-20421-A-41-F MS	Matrix Spike	108	85	
880-20421-A-41-G MSD	Matrix Spike Duplicate	85	72	
890-3209-1	PH05	98	89	
890-3209-2	PH05A	110	98	
890-3209-3	PH05B	108	97	
890-3209-4	PH05C	108	97	
LCS 880-37188/2-A	Lab Control Sample	91	101	
LCSD 880-37188/3-A	Lab Control Sample Dup	95	86	
MB 880-37188/1-A	Method Blank	133 S1+	124	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37159/5-A

Matrix: Solid Analysis Batch: 37451 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37159

1

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/17/22 13:32	10/22/22 00:40	
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/17/22 13:32	10/22/22 00:40	

MB MB

MR MR

<0.00200 U

Result Qualifier

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	10/17/22 13:32	10/22/22 00:40	1
1,4-Difluorobenzene (Surr)	104		70 - 130	10/17/22 13:32	10/22/22 00:40	1

RL

0.00200

Lab Sample ID: MB 880-37166/5-A

Matrix: Solid

Analyte

Benzene

Toluene

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 37451

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

Analyzed

10/22/22 12:15

Prepared

10/17/22 14:12

Prep Batch: 37166

Dil Fac

<0.00200 U 0.00200 mg/Kg 10/17/22 14:12 10/22/22 12:15 <0.00200 U 0.00200 mg/Kg 10/17/22 14:12 10/22/22 12:15 10/22/22 12:15 <0.00400 U 0.00400 mg/Kg 10/17/22 14:12

Unit

mg/Kg

<0.00200 U o-Xylene 0.00200 mg/Kg 10/17/22 14:12 10/22/22 12:15 10/22/22 12:15 Xylenes, Total <0.00400 U 0.00400 mg/Kg 10/17/22 14:12 MB MB

Surrogate	%Recovery Qualifi	er Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91	70 - 130	10/17/22 14:12	10/22/22 12:15	1
1,4-Difluorobenzene (Surr)	105	70 - 130	10/17/22 14:12	10/22/22 12:15	1

Lab Sample ID: LCS 880-37166/1-A

Matrix: Solid

Analysis Batch: 37451

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

Prep Batch: 37166

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08927		mg/Kg		89	70 - 130	
Toluene	0.100	0.08336		mg/Kg		83	70 - 130	
Ethylbenzene	0.100	0.07394		mg/Kg		74	70 - 130	
m-Xylene & p-Xylene	0.200	0.1504		mg/Kg		75	70 - 130	
o-Xylene	0.100	0.07351		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-37166/2-A

Matrix: Solid

Analysis Batch: 37451

Client Sample	ID: Lab Control	Sample Dup
	Danie To	T-4-1/NIA

Prep Type: Total/NA

Prep Batch: 37166

	Spike	LCSD LCSD				%Rec		RPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09750	mg/Kg		98	70 - 130	9	35	

Client: Ensolum Job ID: 890-3209-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: LCSD 880-37166/2-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 37451 Prep Batch: 37166

Spike	LCSD	LCSD				%Rec		RPD
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
0.100	0.09368		mg/Kg		94	70 - 130	12	35
0.100	0.08412		mg/Kg		84	70 - 130	13	35
0.200	0.1702		mg/Kg		85	70 - 130	12	35
0.100	0.08337		mg/Kg		83	70 - 130	13	35
	Added 0.100 0.100 0.200	Added Result 0.100 0.09368 0.100 0.08412 0.200 0.1702	Added Result Qualifier 0.100 0.09368 0.100 0.100 0.08412 0.200 0.200 0.1702	Added Result 0.100 Qualifier 0.101 Unit mg/Kg 0.100 0.09368 mg/Kg 0.100 0.08412 mg/Kg 0.200 0.1702 mg/Kg	Added Result Qualifier Unit D 0.100 0.09368 mg/Kg 0.100 0.08412 mg/Kg 0.200 0.1702 mg/Kg	Added Result Qualifier Unit D %Rec 0.100 0.09368 mg/Kg 94 0.100 0.08412 mg/Kg 84 0.200 0.1702 mg/Kg 85	Added Result Qualifier Unit D %Rec Limits 0.100 0.09368 mg/Kg 94 70 - 130 0.100 0.08412 mg/Kg 84 70 - 130 0.200 0.1702 mg/Kg 85 70 - 130	Added Result 0.100 Qualifier 0.000 Unit 0.000 D %Rec 0.000 Limits RPD 0.000 RPD 0.000 0.100 0.09368 mg/Kg 94 70 - 130 12 0.100 0.08412 mg/Kg 84 70 - 130 13 0.200 0.1702 mg/Kg 85 70 - 130 12

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-3209-1 MS Client Sample ID: PH05 **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37451 Prep Batch: 37166

Sample	Sample	Spike	MS	MS				%Rec	
Analyte Resul	t Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene <0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
Toluene <0.00198	B U F2 F1	0.0996	<0.00199	U F1	mg/Kg		0.3	70 - 130	
Ethylbenzene <0.00198	B UF1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
m-Xylene & p-Xylene <0.0039	' U F1	0.199	<0.00398	U F1	mg/Kg		0.01	70 - 130	
o-Xylene <0.00198	B U F1	0.0996	<0.00199	U F1	mg/Kg		-0.1	70 - 130	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-3209-1 MSD Client Sample ID: PH05 **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37451 Prep Batch: 37166

_	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00198	U F2 F1	0.100	<0.00200	U F2 F1	mg/Kg		-0.1	70 - 130	54	35
Ethylbenzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00397	U F1	0.200	<0.00400	U F1	mg/Kg		-0.2	70 - 130	25	35
o-Xylene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		-0.1	70 - 130	2	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

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

Lab Sample ID: MB 880-37188/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37190 Prep Batch: 37188 мв мв

Result Qualifier Unit Prepared Gasoline Range Organics <50.0 U 50.0 mg/Kg 10/18/22 08:38 10/18/22 10:43 (GRO)-C6-C10

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

Lab Sample ID: MB 880-37188/1-A

Matrix: Solid

Analysis Batch: 37190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37188

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 10:43	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:38	10/18/22 10:43	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	133	S1+	70 - 130			10/18/22 08:38	10/18/22 10:43	1
o-Terphenyl	124		70 - 130			10/18/22 08:38	10/18/22 10:43	1

Lab Sample ID: LCS 880-37188/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 37190 Prep Batch: 37188 LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 814.2 81 70 - 130 mg/Kg (GRO)-C6-C10 1000 943.3 Diesel Range Organics (Over mg/Kg 94 70 - 130 C10-C28) LCS LCS

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 91
 70 - 130

 o-Terphenyl
 101
 70 - 130

Lab Sample ID: LCSD 880-37188/3-A

Matrix: Solid

Analysis Batch: 37190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 37188

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	1000	566.2	*- *1	mg/Kg		57	70 - 130	36	20	
(GRO)-C6-C10										
Diesel Range Organics (Over	1000	862.6		mg/Kg		86	70 - 130	9	20	
C10-C28)										

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 880-20421-A-41-F MS

Matrix: Solid

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

Analysis Batch: 37190 Prep Batch: 37188

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	999	1067		mg/Kg		107	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1033		mg/Kg		103	70 - 130	
	MS	MS								

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 108
 70 - 130

 o-Terphenyl
 85
 70 - 130

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 880-20421-A-41-G MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37190

Analysis Batch: 37190									Prep	Batch:	37188
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	997	933.4		mg/Kg		94	70 - 130	13	20
Diesel Range Organics (Over	<49.9	U	997	903.4		mg/Kg		91	70 - 130	13	20

C10-C28)

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	85		70 - 130
o-Terphenyl	72		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37168/1-A Client Sample ID: Method Blank **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 37251

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			10/19/22 18:55	1

Lab Sample ID: LCS 880-37168/2-A **Client Sample ID: Lab Control Sample Prep Type: Soluble Matrix: Solid**

Analysis Batch: 37251

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	250	267.9	-	mg/Kg		107	90 - 110	

Lab Sample ID: LCSD 880-37168/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 37251

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	263.6		ma/Ka		105	90 - 110	2	20	

Lab Sample ID: 890-3209-1 MS **Client Sample ID: PH05 Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 37251

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	368		1260	1563		ma/Ka	_	95	90 110	

Lab Sample ID: 890-3209-1 MSD **Client Sample ID: PH05 Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 37251

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	368		1260	1610		mg/Kg		99	90 - 110	3	20

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Prep Type: Soluble

QC Association Summary

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA

Prep Batch: 37159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-37159/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 37166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Total/NA	Solid	5035	
890-3209-2	PH05A	Total/NA	Solid	5035	
890-3209-3	PH05B	Total/NA	Solid	5035	
890-3209-4	PH05C	Total/NA	Solid	5035	
MB 880-37166/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3209-1 MS	PH05	Total/NA	Solid	5035	
890-3209-1 MSD	PH05	Total/NA	Solid	5035	

Analysis Batch: 37451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Total/NA	Solid	8021B	37166
890-3209-2	PH05A	Total/NA	Solid	8021B	37166
890-3209-3	PH05B	Total/NA	Solid	8021B	37166
890-3209-4	PH05C	Total/NA	Solid	8021B	37166
MB 880-37159/5-A	Method Blank	Total/NA	Solid	8021B	37159
MB 880-37166/5-A	Method Blank	Total/NA	Solid	8021B	37166
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	8021B	37166
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37166
890-3209-1 MS	PH05	Total/NA	Solid	8021B	37166
890-3209-1 MSD	PH05	Total/NA	Solid	8021B	37166

Analysis Batch: 37716

Lab Sample ID 890-3209-1	Client Sample ID PH05	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-3209-2	PH05A	Total/NA	Solid	Total BTEX	
890-3209-3	PH05B	Total/NA	Solid	Total BTEX	
890-3209-4	PH05C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Total/NA	Solid	8015NM Prep	
890-3209-2	PH05A	Total/NA	Solid	8015NM Prep	
890-3209-3	PH05B	Total/NA	Solid	8015NM Prep	
890-3209-4	PH05C	Total/NA	Solid	8015NM Prep	
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Total/NA	Solid	8015B NM	37188

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QC Association Summary

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

GC Semi VOA (Continued)

Analysis Batch: 37190 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-2	PH05A	Total/NA	Solid	8015B NM	37188
890-3209-3	PH05B	Total/NA	Solid	8015B NM	37188
890-3209-4	PH05C	Total/NA	Solid	8015B NM	37188
MB 880-37188/1-A	Method Blank	Total/NA	Solid	8015B NM	37188
LCS 880-37188/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37188
LCSD 880-37188/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37188
880-20421-A-41-F MS	Matrix Spike	Total/NA	Solid	8015B NM	37188
880-20421-A-41-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37188

Analysis Batch: 37288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-3209-1	PH05	Total/NA	Solid	8015 NM
890-3209-2	PH05A	Total/NA	Solid	8015 NM
890-3209-3	PH05B	Total/NA	Solid	8015 NM
890-3209-4	PH05C	Total/NA	Solid	8015 NM

HPLC/IC

Leach Batch: 37168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Soluble	Solid	DI Leach	
890-3209-2	PH05A	Soluble	Solid	DI Leach	
890-3209-3	PH05B	Soluble	Solid	DI Leach	
890-3209-4	PH05C	Soluble	Solid	DI Leach	
MB 880-37168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3209-1 MS	PH05	Soluble	Solid	DI Leach	
890-3209-1 MSD	PH05	Soluble	Solid	DI Leach	

Analysis Batch: 37251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3209-1	PH05	Soluble	Solid	300.0	37168
890-3209-2	PH05A	Soluble	Solid	300.0	37168
890-3209-3	PH05B	Soluble	Solid	300.0	37168
890-3209-4	PH05C	Soluble	Solid	300.0	37168
MB 880-37168/1-A	Method Blank	Soluble	Solid	300.0	37168
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	300.0	37168
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37168
890-3209-1 MS	PH05	Soluble	Solid	300.0	37168
890-3209-1 MSD	PH05	Soluble	Solid	300.0	37168

Lab Chronicle

Job ID: 890-3209-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH05 Date Collected: 10/13/22 14:20

Lab Sample ID: 890-3209-1

Matrix: Solid

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.04 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 12:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37716	10/24/22 16:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			37288	10/19/22 09:56	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37188	10/18/22 08:38	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37190	10/18/22 18:30	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37251	10/19/22 21:17	CH	EET MID

Client Sample ID: PH05A Lab Sample ID: 890-3209-2

Date Collected: 10/13/22 14:25 Matrix: Solid

Date Received: 10/17/22 12:12

Dil Final Batch Batch Initial Batch Prepared Prep Type Туре Method Factor Amount Amount Number or Analyzed Lab Run **Analyst** Total/NA Prep 5035 4.96 g 5 mL 37166 10/17/22 14:12 MNR EET MID 8021B Total/NA Analysis 1 5 mL 5 mL 37451 10/22/22 13:04 MNR **EET MID** Total/NA Total BTEX 37716 10/24/22 16:26 Analysis SM **EET MID** 1 Total/NA Analysis 8015 NM 37288 10/19/22 09:56 SM **EET MID** Total/NA 8015NM Prep 10.04 g 10 mL 37188 10/18/22 08:38 DM **EET MID** Prep Total/NA Analysis 8015B NM 1 uL 1 uL 37190 10/18/22 18:51 SM **EET MID** Soluble 37168 DI Leach 5.02 g 10/17/22 15:36 KS EET MID Leach 50 mL Soluble Analysis 300.0 50 mL 50 mL 37251 10/19/22 21:09 СН **EET MID**

Client Sample ID: PH05B Lab Sample ID: 890-3209-3 Date Collected: 10/13/22 14:30

Date Received: 10/17/22 12:12

Dil Batch Batch Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 10/17/22 14:12 Total/NA Prep 5035 5.01 g 5 mL 37166 MNR **EET MID** Total/NA Analysis 8021B 5 mL 5 mL 37451 10/22/22 13:25 MNR **EET MID** Total/NA Total BTEX 37716 10/24/22 16:26 SM **EET MID** Analysis 1 Total/NA Analysis 8015 NM 37288 10/19/22 09:56 SM EET MID Total/NA Prep 8015NM Prep 10.04 g 10 mL 37188 10/18/22 08:38 DM **EET MID** Total/NA 8015B NM 37190 10/18/22 19:12 Analysis 1 uL 1 uL SM **EET MID** Soluble DI Leach 5.01 g 50 mL 37168 10/17/22 15:36 KS Leach **EET MID** Soluble Analysis 300.0 50 mL 50 mL 37251 10/19/22 21:42 СН **EET MID**

Lab Sample ID: 890-3209-4 Client Sample ID: PH05C

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 13:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37716	10/24/22 16:26	SM	EET MID

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Matrix: Solid

Matrix: Solid

Date Collected: 10/13/22 14:35 Date Received: 10/17/22 12:12

Lab Chronicle

Client: Ensolum Job ID: 890-3209-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH05C

Date Received: 10/17/22 12:12

Lab Sample ID: 890-3209-4 Date Collected: 10/13/22 14:35

Matrix: Solid

Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA 8015 NM 37288 Analysis 10/19/22 09:56 SM EET MID Total/NA Prep 8015NM Prep 10.01 g 10 mL 37188 10/18/22 08:38 DM **EET MID** Total/NA Analysis 8015B NM 1 uL 1 uL 37190 10/18/22 19:33 SM EET MID 1 Soluble DI Leach 4.98 g 50 mL 37168 10/17/22 15:36 KS EET MID Leach 300.0 50 mL 37251 10/19/22 21:51 Soluble Analysis 1 50 mL СН EET MID

Laboratory References:

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

Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

uthority		ogram	Identification Number	Expiration Date	
Texas	NE	ELAP	T104704400-22-24	06-30-23	
The following analytes	are included in this report by	it the leberatory is not contiffi	iad butba gaugeming authority. This list ma		
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for v	
,	' '	Matrix	Analyte	ay include analytes for v	
the agency does not of	fer certification.	•	, , ,	ay include analytes for v	

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Method Summary

 Client: Ensolum
 Job ID: 890-3209-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3209-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3209-1	PH05	Solid	10/13/22 14:20	10/17/22 12:12	0.5'
890-3209-2	PH05A	Solid	10/13/22 14:25	10/17/22 12:12	2'
890-3209-3	PH05B	Solid	10/13/22 14:30	10/17/22 12:12	4'
890-3209-4	PH05C	Solid	10/13/22 14:35	10/17/22 12:12	5'

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

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Chain of Custody

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

Environment Testing

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Work Order No:

Ovoice Manager	Ren Relill	=		Bill to: (if different)	-	GAR	Granett Green	Work Order Comments	omments	
	-	רוכ		Company Name:		XTO	XTO Energy	Program: UST/PST	Brownfields ☐ RRC ☐ Superfund ☐	
	3122 Natil Parks Huy	Parks +		Address:	4.)	3104 E	3104 E Greene St	State of Project:		
e ZIP:	arisbad, h	JM 882		City, State ZIP:)	arisba	Partsbad, NM 88220	Reporting: Level Level PST/UST TRRP Level IV	PST/UST TRRP LevelIV	
	789.854.0852 E	-0852	Email:		<u> </u>	bbelill@ensolum win	おられ	Deliverables: EDD 🗌 ADa	ADaPT Other:	
Drojoct Namo.	JRU 163H		Turn	Turn Around			ANALYSIS REQUEST	15	Preservative Codes	
Jer:	0351558098		Routine	Rush	Pres. Code				None: NO DI Water: H ₂ O	
	32 38042, -103,88429 Due Date:	3.8842Po	Je Date:						Cool: Cool MeOH: Me	
	Meredith Roberts	2 oberts 14	TAT starts the day r	day received by					HCL: HC HNO 3: HN	
			the lab, if received	ived by 4:30pm					H ₂ SO 4: H ₂ NaOH: Na	
SAMPLE RECEIPT	Temp Blank:	Wes No V	Wet Ice:	(Yes) No	eters				H₃PO ₄: HP	
Samples Received Intact:	oN (sex)	Thermometer ID:	i.	The 201	mei	3 6	77		NaHSO 4: NABIS	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	or:	C.O-	Бq	- 0-	9		Na ₂ S ₂ O ₃ : NaSO ₃	
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	eading:	3.8					Zn Acetate+NaOH: Zn	
Total Containers:		Corrected Temperature:	perature:	3.0	_	H	890-3209 Chain of Custody	ustody	NaOH+Ascorbic Acid: SAPC	
Sample Identification	tion Matrix	Date Sampled	Time	Depth Grab/	# of Cont	78 9T			Sample Comments	
PHO5	S	10/13/2	1450	0.5	-	XXX			Includent #.	
PHO5A			1425		_				nAPP 2219 449599	
PHO58			1430	4,						
PHO5C	>	>	1435	5,	>	ァ ァ ナ			Cost Center	
						4	ME		1140601001	
			1							
	1									
	\									
\										
Total 200 7 / 6010	2008 / 6020	SBCF	SRCRA 13PPM	1 11	Al Sh A	Texas 11 Al Sh As Ba Be B Cd	d Ca Cr Co Cu Fe Pb Ma	Ca Cr Co Cu Fe Pb Ma Mn Mo Ni K Se Ag SiO, Na Sr TI Sn U V	TI Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed	I Metal(s) to be an		TCLP / SP	LP 6010 : 8RC	RA Sb	As Ba Be Cd	TCLP/SPLP6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	Ag TI U Hg: 1631/245.1/7470 /7471	/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 bosses 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. Date/Time Received by: (Signature) Relinquished by: (Signature)

10/24/2022

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3209-1

SDG Number: 03E1558098

Login Number: 3209 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

,c 100 oj 27 i

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3209-1

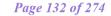
SDG Number: 03E1558098

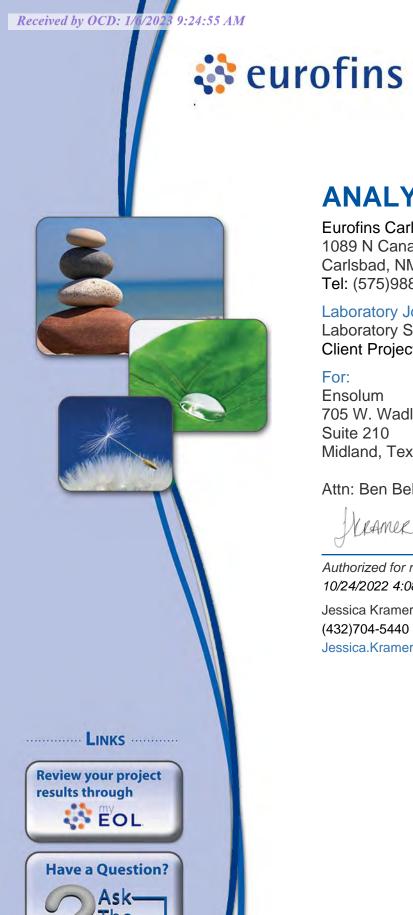
Login Number: 3209 **List Source: Eurofins Midland** List Number: 2 List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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

<6mm (1/4").





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Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3210-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

Authorized for release by: 10/24/2022 4:08:09 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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3210-1
SDG: 03E1558098

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Definitions/Glossary

 Client: Ensolum
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

1000090

Qualifiers

GC VOA Qualifier

 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

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

HPLC/IC

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

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Case Narrative

 Client: Ensolum
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3210-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3210-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH04 (890-3210-1), PH04A (890-3210-2), PH04B (890-3210-3) and PH04C (890-3210-4).

GC VOA

Method 8021B: The following sample was diluted due to the nature of the sample matrix: (890-3209-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

HPLC/IC

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

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Lab Sample ID: 890-3210-1

Client Sample Results

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH04

Date Collected: 10/13/22 16:00 Date Received: 10/17/22 12:12

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
Toluene	< 0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			10/17/22 14:12	10/22/22 14:06	1
1,4-Difluorobenzene (Surr)	99		70 - 130			10/17/22 14:12	10/22/22 14:06	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/24/22 16:26	1
Method: SW846 8015 NM - Diese	ol Pango Organ	ice (DPO) ((SC)					
Method. Offorto out of this - Diese	ri italige Organi	ica (Dixo) (i	301					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte Total TPH			RL 49.9	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 10/19/22 10:33	Dil Fac
Total TPH	<49.9	U	49.9		<u>D</u>	Prepared		
	<49.9	U	49.9		<u>D</u>	Prepared Prepared		
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	<49.9	nics (DRO) Qualifier	49.9 (GC)	mg/Kg			10/19/22 10:33	1 Dil Fac
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	<49.9 sel Range Orga Result	nics (DRO) Qualifier	49.9 (GC)	mg/Kg		Prepared	10/19/22 10:33 Analyzed	Dil Fac
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9 sel Range Orga Result <49.9	nics (DRO) Qualifier U	(GC) RL 49.9	mg/Kg Unit mg/Kg		Prepared 10/18/22 08:41	10/19/22 10:33 Analyzed 10/18/22 14:37	Dil Fac
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	<49.9 sel Range Orga Result <49.9 <49.9	Oualifier U	(GC) RL 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41	10/19/22 10:33 Analyzed 10/18/22 14:37 10/18/22 14:37	1 Dil Fac
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	<49.9 sel Range Orga Result <49.9 <49.9 <49.9	Onics (DRO) Qualifier U U	49.9 (GC) RL 49.9 49.9 49.9	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41	Analyzed 10/18/22 14:37 10/18/22 14:37 10/18/22 14:37	Dil Fac
Total TPH Method: SW846 8015B NM - Dies	<49.9 sel Range Orga Result <49.9 <49.9 <49.9 %Recovery	Onics (DRO) Qualifier U U	49.9 (GC) RL 49.9 49.9 49.9 Limits	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared	Analyzed 10/18/22 14:37 10/18/22 14:37 10/18/22 14:37 Analyzed	Dil Fac
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	<49.9 sel Range Orga Result <49.9 <49.9 <49.9 **Recovery 93 <104	Oualifier U U Qualifier U Qualifier	49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared 10/18/22 08:41	Analyzed 10/18/22 14:37 10/18/22 14:37 10/18/22 14:37 Analyzed 10/18/22 14:37	1 Dil Fac 1 1
Total TPH Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	sel Range Orga Result <49.9 <49.9 <49.9 %Recovery 93 104 s, Ion Chromato	Oualifier U Qualifier U Qualifier	49.9 (GC) RL 49.9 49.9 49.9 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared 10/18/22 08:41	Analyzed 10/18/22 14:37 10/18/22 14:37 10/18/22 14:37 Analyzed 10/18/22 14:37	1 Dil Fac 1 1 1 1 Dil Fac 1

Client Sample ID: PH04A

Date Collected: 10/13/22 16:05 Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130			10/17/22 14:12	10/22/22 14:26	1

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Lab Sample ID: 890-3210-2

Matrix: Solid

Client Sample Results

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH04A Lab Sample ID: 890-3210-2

Date Collected: 10/13/22 16:05 Matrix: Solid Date Received: 10/17/22 12:12

Sample Depth: 2'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101	70 - 130	10/17/22 14:12	10/22/22 14:26	

Method: TAI	SOP Total BTEX	- Total BTEX	Calculation
Michiga, IAL	- JOI TOTAL DIEX	- IUlai DILA	Calculation

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398 U	0.00398	ma/Ka			10/24/22 16:26	1

1		
Method: SW846 8015 NM -	Discal Dance Occasion	(DDO) (CC)
I WETDOO'S WAAH AU15 NIVI .	. Diesei Ranne Ornanics	(I)R()) ((=(.)

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8 U	49.8	mg/Kg			10/19/22 10:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 14:58	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 14:58	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 14:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Q	Qualifier Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	88	70 - 130	10/18/22 08:41	10/18/22 14:58	1
o-Terphenyl	101	70 - 130	10/18/22 08:41	10/18/22 14:58	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	118	4.96	mg/Kg			10/19/22 22:24	1

Client Sample ID: PH04B Lab Sample ID: 890-3210-3

Date Collected: 10/13/22 16:10 Date Received: 10/17/22 12:12

Sample Depth: 4'

Mothodi CIMOAC 0004D	Valatila Organia Campaunda //	CCI

Wethou: Syvo46 8021B - Volatile	Organic Comp	ounus (GC))					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/17/22 14:12	10/22/22 14:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		70 - 130			10/17/22 14:12	10/22/22 14:46	1
m-Xylene & p-Xylene o-Xylene Xylenes, Total	<0.00398 <0.00199 <0.00398 <i>%Recovery</i>	U U U	0.00398 0.00199 0.00398 <i>Limits</i>	mg/Kg mg/Kg		10/17/22 14:12 10/17/22 14:12 10/17/22 14:12 Prepared		10/22/22 14:46 10/22/22 14:46 10/22/22 14:46 Analyzed

Surrogate	%Recovery Qualifier	Limits	Prepared	Anaiyzea	DII Fac
4-Bromofluorobenzene (Surr)	90	70 - 130	10/17/22 14:12	10/22/22 14:46	1
1,4-Difluorobenzene (Surr)	102	70 - 130	10/17/22 14:12	10/22/22 14:46	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00398	U	0.00398	mg/Kg			10/24/22 16:26	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg		_	10/19/22 10:33	1

Eurofins Carlsbad

Matrix: Solid

Lab Sample ID: 890-3210-3

10/19/22 22:33

Matrix: Solid

Client Sample Results

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH04B

Date Collected: 10/13/22 16:10 Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 15:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 15:19	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 15:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130			10/18/22 08:41	10/18/22 15:19	1
o-Terphenyl	104		70 - 130			10/18/22 08:41	10/18/22 15:19	1
Method: MCAWW 300.0 - Anions	, Ion Chromato	graphy - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

5.02 Client Sample ID: PH04C Lab Sample ID: 890-3210-4

mg/Kg

19.7

Date Collected: 10/13/22 16:20 Date Received: 10/17/22 12:12

Sample Depth: 7'

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 15:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			10/17/22 14:12	10/22/22 15:56	1
1,4-Difluorobenzene (Surr)	96		70 - 130			10/17/22 14:12	10/22/22 15:56	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/24/22 16:26	1
TOTAL DT LX		•	0.00.02	9,9			10/2 1/22 10:20	•
- -				9/1.9			10/2 1/22 10:20	
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					·
Method: SW846 8015 NM - Diese Analyte	el Range Organ Result	ics (DRO) (GC)	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
: Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)		<u>D</u>	Prepared		Dil Fac
Method: SW846 8015 NM - Diese Analyte	Range Organ Result <49.9	ics (DRO) (Gualifier	RL 49.9	Unit	<u>D</u>	Prepared	Analyzed	
Method: SW846 8015 NM - Diese Analyte Total TPH	el Range Organ Result <49.9 sel Range Orga	ics (DRO) (Gualifier	RL 49.9	Unit	D_	Prepared Prepared	Analyzed	
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies	el Range Organ Result <49.9 sel Range Orga	Qualifier Unics (DRO) Qualifier	RL 49.9 (GC)	<mark>Unit</mark> mg/Kg			Analyzed 10/19/22 10:33	1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Dies Analyte	el Range Organ Result <49.9 sel Range Orga Result	Qualifier Unics (DRO) Qualifier	(GC) RL (GC) RL	Unit mg/Kg		Prepared	Analyzed 10/19/22 10:33 Analyzed	1 Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics	el Range Organ Result <49.9 sel Range Orga Result	ics (DRO) (Qualifier U nics (DRO) Qualifier U	(GC) RL (GC) RL	Unit mg/Kg		Prepared	Analyzed 10/19/22 10:33 Analyzed	1 Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	el Range Organ Result 49.9 sel Range Orga Result 49.9	ics (DRO) (Qualifier U nics (DRO) Qualifier U	(GC) RL 49.9 (GC) RL 49.9	Unit mg/Kg Unit mg/Kg		Prepared 10/18/22 08:41	Analyzed 10/19/22 10:33 Analyzed 10/18/22 15:41	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10	el Range Organ Result 49.9 sel Range Orga Result 49.9	ics (DRO) (Qualifier U nics (DRO) Qualifier U	(GC) RL 49.9 (GC) RL 49.9	Unit mg/Kg Unit mg/Kg		Prepared 10/18/22 08:41	Analyzed 10/19/22 10:33 Analyzed 10/18/22 15:41	Dil Fac
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	el Range Organ Result 49.9 sel Range Orga Result 49.9 49.9	ics (DRO) (Qualifier U nics (DRO) Qualifier U U	GC) RL 49.9 (GC) RL 49.9 49.9	Unit mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41	Analyzed 10/19/22 10:33 Analyzed 10/18/22 15:41 10/18/22 15:41	1 Dil Fac 1
Method: SW846 8015 NM - Diese Analyte Total TPH Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Organ Result <49.9 sel Range Orga Result <49.9 <49.9 <49.9	ics (DRO) (Qualifier U nics (DRO) Qualifier U U	GC) RL 49.9 (GC) RL 49.9 49.9 49.9	Unit mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41	Analyzed 10/19/22 10:33 Analyzed 10/18/22 15:41 10/18/22 15:41	1 Dil Fac 1

Client Sample Results

 Client: Ensolum
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH04C Lab Sample ID: 890-3210-4

Date Collected: 10/13/22 16:20 Matrix: Solid
Date Received: 10/17/22 12:12

Sample Depth: 7'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Chloride	15.4		5.03	mg/Kg			10/19/22 22:41	1

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Surrogate Summary

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3209-A-1-C MS	Matrix Spike	97	102	
390-3209-A-1-D MSD	Matrix Spike Duplicate	95	102	
890-3210-1	PH04	91	99	
890-3210-2	PH04A	91	101	
390-3210-3	PH04B	90	102	
890-3210-4	PH04C	93	96	
_CS 880-37166/1-A	Lab Control Sample	92	99	
_CSD 880-37166/2-A	Lab Control Sample Dup	93	100	
MB 880-37159/5-A	Method Blank	93	104	
MB 880-37166/5-A	Method Blank	91	105	

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)
		1001	OTPH1	
_ab Sample ID	Client Sample ID	(70-130)	(70-130)	
380-20421-A-45-D MS	Matrix Spike	91	90	
880-20421-A-45-E MSD	Matrix Spike Duplicate	91	89	
390-3210-1	PH04	93	104	
390-3210-2	PH04A	88	101	
390-3210-3	PH04B	93	104	
390-3210-4	PH04C	99	114	
CS 880-37189/2-A	Lab Control Sample	96	110	
CSD 880-37189/3-A	Lab Control Sample Dup	97	113	
MB 880-37189/1-A	Method Blank	114	132 S1+	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-3210-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37159/5-A

Matrix: Solid Analysis Batch: 37451 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37159

1

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/17/22 13:32	10/22/22 00:40	
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/17/22 13:32	10/22/22 00:40	

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130	10/17/22 13:32	10/22/22 00:40	1
1,4-Difluorobenzene (Surr)	104		70 - 130	10/17/22 13:32	10/22/22 00:40	1

Lab Sample ID: MB 880-37166/5-A

Client Sample ID: Method Blank

Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 37451	Prep Batch: 37166
MB MB	

Analyte	Result Q	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200 U	<u> </u>	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Toluene	<0.00200 U	I	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Ethylbenzene	<0.00200 U	I	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
m-Xylene & p-Xylene	<0.00400 U		0.00400	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
o-Xylene	<0.00200 U	I	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Xylenes, Total	<0.00400 U	I	0.00400	mg/Kg		10/17/22 14:12	10/22/22 12:15	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	10/17/22 14:12	10/22/22 12:15	1
1,4-Difluorobenzene (Surr)	105		70 - 130	10/17/22 14:12	10/22/22 12:15	1

Lab Sample ID: LCS 880-37166/1-A

Matrix: Solid

Analysis Batch: 37451

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 37166

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08927		mg/Kg		89	70 - 130	
Toluene	0.100	0.08336		mg/Kg		83	70 - 130	
Ethylbenzene	0.100	0.07394		mg/Kg		74	70 - 130	
m-Xylene & p-Xylene	0.200	0.1504		mg/Kg		75	70 - 130	
o-Xylene	0.100	0.07351		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	92	70 _ 130
1.4-Difluorobenzene (Surr)	99	70 - 130

Lab Sample ID: LCSD 880-37166/2-A

Matrix: Solid

Analysis Batch: 37451

Client Sample ID: La	b Control Sample Dup
	Dren Times Tetal/NA

Prep Type: Total/NA

Prep Batch: 37166

	Spike	LCSD LCSD				%Rec		RPD
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09750	mg/Kg		98	70 - 130	9	35

Client: Ensolum Job ID: 890-3210-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: LCSD 880-37166/2-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 37451 Prep Batch: 37166

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.09368		mg/Kg		94	70 - 130	12	35
Ethylbenzene	0.100	0.08412		mg/Kg		84	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1702		mg/Kg		85	70 - 130	12	35
o-Xylene	0.100	0.08337		mg/Kg		83	70 - 130	13	35

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-3209-A-1-C MS Client Sample ID: Matrix Spike **Matrix: Solid**

Prep Type: Total/NA Analysis Batch: 37451 Prep Batch: 37166

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
Toluene	<0.00198	U F2 F1	0.0996	<0.00199	U F1	mg/Kg		0.3	70 - 130	
Ethylbenzene	<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
m-Xylene & p-Xylene	<0.00397	U F1	0.199	<0.00398	U F1	mg/Kg		0.01	70 - 130	
o-Xylene	<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		-0.1	70 - 130	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-3209-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid Prep Type: Total/NA Analysis Batch: 37451 Prep Batch: 37166

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00198	U F2 F1	0.100	<0.00200	U F2 F1	mg/Kg		-0.1	70 - 130	54	35
Ethylbenzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00397	U F1	0.200	<0.00400	U F1	mg/Kg		-0.2	70 - 130	25	35
o-Xylene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		-0.1	70 - 130	2	35

	MSD	MISD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

MSD MSD

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

Lab Sample ID: MB 880-37189/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37192 Prep Batch: 37189 мв мв

Result Qualifier Unit Prepared <50.0 U 50.0 mg/Kg 10/18/22 08:41 10/18/22 10:43 Gasoline Range Organics (GRO)-C6-C10

 Client: Ensolum
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

Lab Sample ID: MB 880-37189/1-A	Client Sample ID: Method Blank
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 37192	Prep Batch: 37189
MR MR	

	MB	MR						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130			10/18/22 08:41	10/18/22 10:43	1
o-Terphenyl	132	S1+	70 - 130			10/18/22 08:41	10/18/22 10:43	1

- Lab Sample ID: LCS 880-37	189/2-A						Client	Sample	ID: Lab Cont	rol Sample
Matrix: Solid									Prep Type	e: Total/NA
Analysis Batch: 37192									Prep Ba	tch: 3718
			Spike	LCS	LCS				%Rec	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics			1000	917.8		mg/Kg		92	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over			1000	861.0		mg/Kg		86	70 - 130	
C10-C28)										
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	96		70 - 130							

70 - 130

Lab Sample ID: LCSD 880-37189/3-A Clie						iple ID:	Lab Contro	I Sampl	e Dup
Matrix: Solid							Prep 1	Type: To	tal/NA
Analysis Batch: 37192							Prep	Batch:	37189
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	1000	899.3		mg/Kg		90	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	878.4		mg/Kg		88	70 - 130	2	20

	LCSD	LCSD		
Surrogate	%Recovery	Qualifier	Limits	
1-Chlorooctane	97		70 - 130	
o-Terphenyl	113		70 - 130	

110

Lab Sample ID: 880-20421-A Matrix: Solid Analysis Batch: 37192	A-45-D MS							Client	Prep	9: Matrix Spike Type: Total/NA o Batch: 37189
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1087		mg/Kg		107	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	1026		mg/Kg		99	70 - 130	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
1-Chlorooctane	91		70 - 130							
o-Terphenyl	90		70 - 130							

Eurofins Carlsbad

o-Terphenyl

Job ID: 890-3210-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 880-20421-A-45-E MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid Analysis Batch: 37192 Prep Type: Total/NA Prep Batch: 37189

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Prep Type: Soluble

Prep Type: Soluble

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Sample Sample MSD MSD RPD Spike Result Qualifier Analyte Added Result Qualifier %Rec Limits RPD Limit Unit Gasoline Range Organics <49.9 U 999 1182 mg/Kg 117 70 - 130 8 20 (GRO)-C6-C10 999 70 - 130 Diesel Range Organics (Over <49.9 U 1034 mg/Kg 100 20

C10-C28)

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37168/1-A Client Sample ID: Method Blank **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 37251

MB MB

Result Qualifier RL Unit Analyte Prepared Analyzed Dil Fac Chloride <5.00 5.00 mg/Kg 10/19/22 18:55

Lab Sample ID: LCS 880-37168/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble**

Analysis Batch: 37251

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 267.9 107 90 - 110 mg/Kg

Lab Sample ID: LCSD 880-37168/3-A

Matrix: Solid

Analysis Batch: 37251

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chloride	250	263.6		ma/Ka		105	90 - 110	2	20	

Lab Sample ID: 890-3207-A-1-E MS

Matrix: Solid

Analysis Batch: 37251

Sample Sample Spike MS MS %Rec Qualifier Added Qualifier Analyte Result Result %Rec Limits Unit Chloride 250 90 - 110 195 431.9 mg/Kg

Lab Sample ID: 890-3207-A-1-F MSD

Matrix: Solid

Analysis Batch: 37251

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	195		250	453.1		mg/Kg		104	90 - 110	5	20

QC Association Summary

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

GC VOA

Prep Batch: 37159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-37159/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 37166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Total/NA	Solid	5035	
890-3210-2	PH04A	Total/NA	Solid	5035	
890-3210-3	PH04B	Total/NA	Solid	5035	
890-3210-4	PH04C	Total/NA	Solid	5035	
MB 880-37166/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3209-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3209-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Total/NA	Solid	8021B	37166
890-3210-2	PH04A	Total/NA	Solid	8021B	37166
890-3210-3	PH04B	Total/NA	Solid	8021B	37166
890-3210-4	PH04C	Total/NA	Solid	8021B	37166
MB 880-37159/5-A	Method Blank	Total/NA	Solid	8021B	37159
MB 880-37166/5-A	Method Blank	Total/NA	Solid	8021B	37166
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	8021B	37166
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37166
890-3209-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	37166
890-3209-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37166

Analysis Batch: 37717

Lab Sam 890-3210	· · · · · · · · · · · · · · · · · · ·	Prep Type Total/NA	Matrix Solid	Method Total BTEX	Prep Batch
890-3210	-2 PH04A	Total/NA	Solid	Total BTEX	
890-3210	-3 PH04B	Total/NA	Solid	Total BTEX	
890-3210	-4 PH04C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Total/NA	Solid	8015NM Prep	
890-3210-2	PH04A	Total/NA	Solid	8015NM Prep	
890-3210-3	PH04B	Total/NA	Solid	8015NM Prep	
890-3210-4	PH04C	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Total/NA	Solid	8015B NM	37189

QC Association Summary

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

GC Semi VOA (Continued)

Analysis Batch: 37192 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-2	PH04A	Total/NA	Solid	8015B NM	37189
890-3210-3	PH04B	Total/NA	Solid	8015B NM	37189
890-3210-4	PH04C	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

Analysis Batch: 37299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
890-3210-1	PH04	Total/NA	Solid	8015 NM
890-3210-2	PH04A	Total/NA	Solid	8015 NM
890-3210-3	PH04B	Total/NA	Solid	8015 NM
890-3210-4	PH04C	Total/NA	Solid	8015 NM

HPLC/IC

Leach Batch: 37168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Soluble	Solid	DI Leach	
890-3210-2	PH04A	Soluble	Solid	DI Leach	
890-3210-3	PH04B	Soluble	Solid	DI Leach	
890-3210-4	PH04C	Soluble	Solid	DI Leach	
MB 880-37168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3207-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3207-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3210-1	PH04	Soluble	Solid	300.0	37168
890-3210-2	PH04A	Soluble	Solid	300.0	37168
890-3210-3	PH04B	Soluble	Solid	300.0	37168
890-3210-4	PH04C	Soluble	Solid	300.0	37168
MB 880-37168/1-A	Method Blank	Soluble	Solid	300.0	37168
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	300.0	37168
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37168
890-3207-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	37168
890-3207-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37168

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH04 Lab Sample ID: 890-3210-1 Date Collected: 10/13/22 16:00

Matrix: Solid

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 14:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37717	10/24/22 16:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			37299	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 14:37	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 22:16	CH	EET MID

Client Sample ID: PH04A Lab Sample ID: 890-3210-2

Date Collected: 10/13/22 16:05 Matrix: Solid

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 14:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37717	10/24/22 16:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			37299	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 14:58	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 22:24	CH	EET MID

Client Sample ID: PH04B Lab Sample ID: 890-3210-3 Date Collected: 10/13/22 16:10 **Matrix: Solid**

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 14:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37717	10/24/22 16:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			37299	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 15:19	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 22:33	CH	EET MID

Client Sample ID: PH04C Lab Sample ID: 890-3210-4 Date Collected: 10/13/22 16:20 **Matrix: Solid**

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 15:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37717	10/24/22 16:26	SM	EET MID

Lab Chronicle

Client: Ensolum Job ID: 890-3210-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH04C

Date Received: 10/17/22 12:12

Lab Sample ID: 890-3210-4 Date Collected: 10/13/22 16:20

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37299	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 15:41	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37251	10/19/22 22:41	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
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	Expiration Date 06-30-23	
Texas	NE	ELAP	T104704400-22-24		
The following analytes	are included in this report by	it the leberatory is not contiffi	iad butba gaugeming authority. This list ma		
the agency does not of	' '	it the laboratory is not certifi	ied by the governing authority. This list ma	ay include analytes for v	
,	' '	Matrix	Analyte	ay include analytes for v	
the agency does not of	fer certification.	•	, , ,	ay include analytes for v	

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Method Summary

 Client: Ensolum
 Job ID: 890-3210-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

Eurofins Carlsbad

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3210-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3210-1	PH04	Solid	10/13/22 16:00	10/17/22 12:12	0.5'
890-3210-2	PH04A	Solid	10/13/22 16:05	10/17/22 12:12	2'
890-3210-3	PH04B	Solid	10/13/22 16:10	10/17/22 12:12	4'
890-3210-4	PH04C	Solid	10/13/22 16:20	10/17/22 12:12	7'

Date/Time

Received by: (Signature)

Chain of Custody

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

Environment Testing

eurofins 💸

Work Order No:

				www.xenco.com Page of
Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green	Work Order Comments
Company Name:	Ensolum, LLC	Company Name:	XTO Energy	Program: UST/PST
Address:	3122 Nat'I Parks Hwy	Address:	Side Farecne St	State of Project:
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88,220	Reporting: Level Level PST/UST TRRP Level V
Phone:	989.854.0852	nail:	bise 1111@ensolum. com	Deliverables: EDD ☐ ADaPT ☐ Other:
	0.1	Described marri	ANALYSIS BEOLIES	Preservative Codes
Project Name:	חבסו מאס	DI IDOM I I	איזיין כוכו איזיי	
	1	Pres		

Preservative Codes	None: NO DI Water: H ₂ O	Cool: Cool MeOH: Me	HCL: HC HNO 3: HN	H ₂ SO ₄ : H ₂ NaOH: Na	H ₃ PO ₄ : HP	NaHSO 4: NABIS	Na ₂ S ₂ O ₃ :NaSO ₃	Zn Acetate+NaOH: Zn	NaOH+Ascorbic Acid: SAPC	Sample Comments	Incident #:	04002219 649599		Cust Center:	1140601001				JI K SA AN SIO, NA ST TI SN U V ZN
ANALYSIS REQUEST						2	. 5/	ΣĻ		18 (M)	XXX			・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・					Tavas 11 Al Ch As Ba B Cd Ca Cr Co Ci. Ea Ph Ma Mn Mn Ni K Se An SiO, Na Sr TI Sn U V Zn
	Pres. Code				eters	mei	Бq	Ì	_	* of	_			→	1				I Ch As
Turn Around	rtine Rush	ate:	arts the day received by	o, if received by 4:30pm	Ice: No	TAME	-0.3	, A	.ure: 3 .C	Depth Grab/	00.5' 6	w05 2'	610 4'	1 1 07					SPCDA 1300M Toxas 11 A
	8 Akoutine	. 884.7 Due D	Sbects TAT Ste	the lal	Tes No Wet Ice:	Thermometer ID:	Correction Factor:	Temperature Reading:	Corrected Temperature:	Date Time Sampled Sampled	10/13/2 1600	10/	16.	0791		\			Adodo
JRU 183H	D3E1558098	32. 3842, -103. 884. Due Date:	Meredith Reberts TAT starts the day received by		Temp Blank:	(es) No	Yes No MA	Yes No Nu		lon Matrix	S	_		→			1	\	2000 / 6000
Projectivame:	er:	Project Location:	Sampler's Name:		SAMPLE RECEIPT	Samples Received Intact:	Cooler Custody Seals:	Sample Custody Seals:	Total Containers:	Sample Identification	PH04	PHO49	P.H04 B	PHOAC					0102/2000 -4-7

TCLP/SPLP6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U otice: 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 if 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 Circle Method(s) and Metal(s) to be analyzed

ns Xenco. A minimum charge of \$85.00 will I	fins 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 in	mitted to Eurofins Xenco, but not analy	zed. These terms will be enforced unless previously i	= II
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linquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	
region	War Kineral State	E15/21 25/1/01	ر'2	_
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Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3210-1 SDG Number: 03E1558098

Login Number: 3210 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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Login Sample Receipt Checklist

Client: Ensolum Job Number:

Job Number: 890-3210-1 SDG Number: 03E1558098

List Source: Eurofins Midland
List Number: 2
List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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







ANALYTICAL REPORT

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

Laboratory Job ID: 890-3211-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill



Authorized for release by: 10/24/2022 4:08:38 PM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

.....LINKS

Review your project results through EOL

Received by OCD: 1/6/2023 9:24:55 AM

Have a Question?



Visit us at:

www.eurofinsus.com/Env Released to Imaging: 5/9/2023 1:49:46 PM

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3211-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-3211-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC	VOA	
Qua	alifier	

Qualifier Description F1 MS and/or MSD recovery exceeds control limits. F2 MS/MSD RPD exceeds control limits

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

Qualifier **Qualifier Description**

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 DFR

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

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

EPA recommended "Maximum Contaminant Level" MCL MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL 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

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

Client: Ensolum Job ID: 890-3211-1 SDG: 03E1558098 Project/Site: JRU 163H

Job ID: 890-3211-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3211-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH03 (890-3211-1), PH03A (890-3211-2) and PH03B (890-3211-3).

GC VOA

Method 8021B: The following sample was diluted due to the nature of the sample matrix: (890-3209-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA

Method 8015MOD NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-3211-1

Client Sample Results

 Client: Ensolum
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH03

Date Collected: 10/12/22 15:30 Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/17/22 14:12	10/22/22 16:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130			10/17/22 14:12	10/22/22 16:17	1
1,4-Difluorobenzene (Surr)	100		70 - 130			10/17/22 14:12	10/22/22 16:17	1
- Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/24/22 16:26	1
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	155		49.8	mg/Kg			10/19/22 10:33	1
Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 18:51	1
Diesel Range Organics (Over	155		49.8	mg/Kg		10/18/22 08:41	10/18/22 18:51	
								1
•								
•	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 18:51	
C10-C28) Oll Range Organics (Over C28-C36) Surrogate	<49.8 <i>%Recovery</i>		Limits	mg/Kg		10/18/22 08:41 Prepared	10/18/22 18:51 Analyzed	1 1 <i>Dil Fac</i>
OII Range Organics (Over C28-C36)				mg/Kg				1 Dil Fac
Oll Range Organics (Over C28-C36) Surrogate	%Recovery		Limits	mg/Kg		Prepared	Analyzed	1 Dil Fac
Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	%Recovery 98 110	Qualifier	Limits 70 - 130 70 - 130	mg/Kg		Prepared 10/18/22 08:41	Analyzed 10/18/22 18:51	1
Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	%Recovery 98 110	Qualifier	Limits 70 - 130 70 - 130	mg/Kg Unit	<u>D</u> _	Prepared 10/18/22 08:41	Analyzed 10/18/22 18:51	1 Dil Fac

Client Sample ID: PH03A

Date Collected: 10/12/22 15:40

Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/17/22 14:12	10/22/22 16:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130			10/17/22 14:12	10/22/22 16:37	

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Lab Sample ID: 890-3211-2

Matrix: Solid

Matrix: Solid

Job ID: 890-3211-1 SDG: 03E1558098

Project/Site: JRU 163H

Client Sample ID: PH03A Lab Sample ID: 890-3211-2 Date Collected: 10/12/22 15:40 Date Received: 10/17/22 12:12

Sample Depth: 4'

Client: Ensolum

Method: SW846 8021B	- Volatile Organic	Compounds	(GC) (Continued)
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Surrogate	%Recovery Qua	ıalifier Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99	70 - 130	10/17/22 14:12	10/22/22 16:37	1

Method: TAI	SOP Total BTEX	- Total RTFY	Calculation

Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401 U	0.00401	ma/Ka			10/24/22 16:26	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			10/19/22 10:33	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 19:12	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 19:12	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/18/22 08:41	10/18/22 19:12	1
Surrogato	%Pacayany	Qualifier	l imite			Propared	Analyzod	Dil Eac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	96	70 - 130	10/18/22 08:41	10/18/22 19:12	1
o-Terphenyl	109	70 - 130	10/18/22 08:41	10/18/22 19:12	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	868		50.1	mg/Kg			10/19/22 22:58	10

Client Sample ID: PH03B Lab Sample ID: 890-3211-3

Date Collected: 10/12/22 15:45 Date Received: 10/17/22 12:12

Sample Depth: 5'

ı	Method: SW846 8021B	Valatila Ossasia	O = (OO)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/24/22 09:35	10/24/22 11:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			10/24/22 09:35	10/24/22 11:19	1
4.4.Diff	02		70 400			40/04/00 00:05	10/01/00 11:10	1

4-Bromofluorobenzene (Surr)	115	70 - 130	10/24/22 09:35	10/24/22 11:19	1
1,4-Difluorobenzene (Surr)	93	70 - 130	10/24/22 09:35	10/24/22 11:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/24/22 16:42	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			10/19/22 10:33	1

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Matrix: Solid

Matrix: Solid

Lab Sample ID: 890-3211-3

Analyzed

10/19/22 23:06

Client Sample Results

 Client: Ensolum
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH03B

Date Collected: 10/12/22 15:45 Date Received: 10/17/22 12:12

Sample Depth: 5'

Analyte

Chloride

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 19:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 19:33	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 19:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130			10/18/22 08:41	10/18/22 19:33	1
o-Terphenyl	117		70 - 130			10/18/22 08:41	10/18/22 19:33	1

RL

25.0

Result Qualifier

424

Unit

mg/Kg

D

Prepared

4

7

9

10

Dil Fac

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12

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Surrogate Summary

 Client: Ensolum
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Ad
		BFB1	DFBZ1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
390-3209-A-1-C MS	Matrix Spike	97	102	
390-3209-A-1-D MSD	Matrix Spike Duplicate	95	102	
390-3211-1	PH03	89	100	
390-3211-2	PH03A	88	99	
390-3211-3	PH03B	115	93	
390-3211-3 MS	PH03B	105	107	
890-3211-3 MSD	PH03B	122	90	
CS 880-37166/1-A	Lab Control Sample	92	99	
.CS 880-37622/1-A	Lab Control Sample	100	103	
CSD 880-37166/2-A	Lab Control Sample Dup	93	100	
CSD 880-37622/2-A	Lab Control Sample Dup	117	95	
MB 880-37159/5-A	Method Blank	93	104	
MB 880-37166/5-A	Method Blank	91	105	
MB 880-37622/5-A	Method Blank	87	93	
Surrogate Legend				
BFB = 4-Bromofluorobei	nzene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits
		1CO1	OTPH1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
80-20421-A-45-D MS	Matrix Spike	91	90	
80-20421-A-45-E MSD	Matrix Spike Duplicate	91	89	
90-3211-1	PH03	98	110	
90-3211-2	PH03A	96	109	
90-3211-3	PH03B	102	117	
CS 880-37189/2-A	Lab Control Sample	96	110	
CSD 880-37189/3-A	Lab Control Sample Dup	97	113	
1B 880-37189/1-A	Method Blank	114	132 S1+	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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4

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12

Client: Ensolum Job ID: 890-3211-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37159/5-A

Matrix: Solid Analysis Batch: 37451 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37159

1

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/17/22 13:32	10/22/22 00:40	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 13:32	10/22/22 00:40	1
Xvlenes Total	<0.00400	П	0.00400	ma/Ka		10/17/22 13:32	10/22/22 00:40	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93	70 - 130	10/17/22 13:32	10/22/22 00:40	1
1,4-Difluorobenzene (Surr)	104	70 - 130	10/17/22 13:32	10/22/22 00:40	1

Lab Sample ID: MB 880-37166/5-A

Matrix: Solid

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

Prep Batch: 37166

Analysis Batch: 37451

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/17/22 14:12	10/22/22 12:15	1
Xvlenes Total	<0.00400	U	0.00400	ma/Ka		10/17/22 14:12	10/22/22 12:15	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	10/17/22 14:12	10/22/22 12:15	1
1,4-Difluorobenzene (Surr)	105		70 - 130	10/17/22 14:12	10/22/22 12:15	1

Lab Sample ID: LCS 880-37166/1-A

Matrix: Solid

Analysis Batch: 37451

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 37166

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.08927		mg/Kg		89	70 - 130	
Toluene	0.100	0.08336		mg/Kg		83	70 - 130	
Ethylbenzene	0.100	0.07394		mg/Kg		74	70 - 130	
m-Xylene & p-Xylene	0.200	0.1504		mg/Kg		75	70 - 130	
o-Xylene	0.100	0.07351		mg/Kg		74	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	92	70 - 130
1,4-Difluorobenzene (Surr)	99	70 - 130

Lab Sample ID: LCSD 880-37166/2-A

Matrix: Solid

Analysis Batch: 37451

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

Prep Batch: 37166

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09750		mg/Kg		98	70 - 130	9	35

Job ID: 890-3211-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: LCSD 880-37166/2-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37451 Prep Batch: 37166 Spike LCSD LCSD %Rec

Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.09368		mg/Kg		94	70 - 130	12	35
Ethylbenzene	0.100	0.08412		mg/Kg		84	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.1702		mg/Kg		85	70 - 130	12	35
o-Xylene	0.100	0.08337		mg/Kg		83	70 - 130	13	35

LCSD LCSD %Recovery Qualifier Limits Surrogate 70 - 130 4-Bromofluorobenzene (Surr) 93 1,4-Difluorobenzene (Surr) 100 70 - 130

Lab Sample ID: 890-3209-A-1-C MS Client Sample ID: Matrix Spike Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 37451 Prep Batch: 37166

Sample	Sample	Spike	MS	MS				%Rec	
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
<0.00198	U F2 F1	0.0996	<0.00199	U F1	mg/Kg		0.3	70 - 130	
<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		0.6	70 - 130	
<0.00397	U F1	0.199	<0.00398	U F1	mg/Kg		0.01	70 - 130	
<0.00198	U F1	0.0996	<0.00199	U F1	mg/Kg		-0.1	70 - 130	
	Result <0.00198 <0.00198 <0.00198 <0.00397	Sample Sample Result Qualifier	Result Qualifier Added <0.00198	Result Qualifier Added Result <0.00198	Result Qualifier Added Result Qualifier <0.00198	Result Qualifier Added Result Qualifier Unit <0.00198	Result Qualifier Added Result Qualifier Unit D <0.00198	Result Qualifier Added Result Qualifier Unit D %Rec <0.00198	Result Qualifier Added Result Qualifier Unit D %Rec Limits <0.00198

MS MS Qualifier Surrogate %Recovery Limits 70 - 130 4-Bromofluorobenzene (Surr) 97 1,4-Difluorobenzene (Surr) 102 70 - 130

Lab Sample ID: 890-3209-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid Prep Type: Total/NA Analysis Batch: 37451 Prep Batch: 37166

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00198	U F2 F1	0.100	<0.00200	U F2 F1	mg/Kg		-0.1	70 - 130	54	35
Ethylbenzene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00397	U F1	0.200	<0.00400	U F1	mg/Kg		-0.2	70 - 130	25	35
o-Xylene	<0.00198	U F1	0.100	<0.00200	U F1	mg/Kg		-0.1	70 - 130	2	35

MSD MSD %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 70 - 130 95 102 70 - 130 1,4-Difluorobenzene (Surr)

Lab Sample ID: MB 880-37622/5-A Client Sample ID: Method Blank Matrix: Solid

Prep Type: Total/NA Analysis Batch: 37616 Prep Batch: 37622

	INID	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1

Client: Ensolum Job ID: 890-3211-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: MB 880-37622/5-A

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37622

	111.0	IVID						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200	mg/Kg	_	10/24/22 09:35	10/24/22 10:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1

мв мв

MR MR

	11.5 11.5				
Surrogate	%Recovery Qual	ifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87	70 - 130	10/24/22 09:35	10/24/22 10:58	1
1,4-Difluorobenzene (Surr)	93	70 - 130	10/24/22 09:35	10/24/22 10:58	1

Lab Sample ID: LCS 880-37622/1-A **Client Sample ID: Lab Control Sample**

Analysis Batch: 37616

Matrix: Solid Prep Type: Total/NA Prep Batch: 37622

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09878		mg/Kg		99	70 - 130	
Toluene	0.100	0.09273		mg/Kg		93	70 - 130	
Ethylbenzene	0.100	0.09307		mg/Kg		93	70 - 130	
m-Xylene & p-Xylene	0.200	0.1928		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09522		mg/Kg		95	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	100	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

Lab Sample ID: LCSD 880-37622/2-A

Matrix: Solid

Analysis Batch: 37616

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

Prep Batch: 37622

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1046	-	mg/Kg		105	70 - 130	6	35
Toluene	0.100	0.1043		mg/Kg		104	70 - 130	12	35
Ethylbenzene	0.100	0.1118		mg/Kg		112	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.2373		mg/Kg		119	70 - 130	21	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	21	35

LCSD LCSD

Surrogate	"Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	117	70 - 130
1.4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: 890-3211-3 MS

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: PH03B	CI	ient	Samp	le IE): P	H03B
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Prep Type: Total/NA

Prep Batch: 37622

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.09725		mg/Kg		97	70 - 130	
Toluene	<0.00200	U	0.0998	0.08867		mg/Kg		89	70 - 130	
Ethylbenzene	<0.00200	U	0.0998	0.08819		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1815		mg/Kg		91	70 - 130	
o-Xylene	<0.00200	U	0.0998	0.08871		mg/Kg		89	70 - 130	

Job ID: 890-3211-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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

MS MS

Lab Sample ID: 890-3211-3 MS

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: PH03B Prep Type: Total/NA

Prep Batch: 37622

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 105 70 - 130 1,4-Difluorobenzene (Surr) 107 70 - 130

Lab Sample ID: 890-3211-3 MSD Client Sample ID: PH03B

Matrix: Solid

Analysis Batch: 37616

Prep Type: Total/NA Prep Batch: 37622

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0990	0.08785		mg/Kg		89	70 - 130	10	35
Toluene	<0.00200	U	0.0990	0.08833		mg/Kg		89	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.0990	0.09287		mg/Kg		94	70 - 130	5	35
m-Xylene & p-Xylene	<0.00401	U	0.198	0.1989		mg/Kg		100	70 - 130	9	35
o-Xylene	<0.00200	U	0.0990	0.09869		mg/Kg		100	70 - 130	11	35

MSD MSD Qualifier %Recovery Limits 122 70 - 130

Surrogate 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) 90 70 - 130

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

Lab Sample ID: MB 880-37189/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 37192 Prep Batch: 37189

ı		MB	MB						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
	Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
	OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 10/18/22 08:41 1-Chlorooctane 114 70 - 130 10/18/22 10:43 o-Terphenyl 132 S1+ 70 - 130 10/18/22 08:41 10/18/22 10:43

Lab Sample ID: LCS 880-37189/2-A Client Sample ID: Lab Control Sample

Analysis Batch: 37192

Released to Imaging: 5/9/2023 1:49:46 PM

Matrix: Solid

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits 1000 917.8 92 70 - 130 mg/Kg

Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over 1000 861.0 mg/Kg 86 70 - 130 C10-C28)

LCS LCS %Recovery Qualifier Surrogate Limits 1-Chlorooctane 96 70 - 130 110 70 - 130 o-Terphenyl

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Prep Type: Total/NA

Prep Batch: 37189

Client: Ensolum Job ID: 890-3211-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: LCSD 880-37189/3-A

Matrix: Solid Analysis Batch: 37192 Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 37189 RPD

Spike LCSD LCSD Added Limit Analyte Result Qualifier Unit %Rec Limits RPD D Gasoline Range Organics 1000 899.3 mg/Kg 90 70 - 130 2 (GRO)-C6-C10 1000 Diesel Range Organics (Over 878 4 88 70 - 130 mg/Kg 2 20

20

C10-C28)

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	113		70 - 130

Client Sample ID: Matrix Spike

Prep Type: Total/NA

100

70 - 130

Prep Batch: 37189

Lab Sample ID: 880-20421-A-45-D MS

Matrix: Solid

Analysis Batch: 37192

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1087		mg/Kg		107	70 - 130	
Diesel Range Organics (Over	<49.9	U	999	1026		mg/Kg		99	70 - 130	

C10-C28)

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 91 70 - 130 o-Terphenyl 90 70 - 130

Lab Sample ID: 880-20421-A-45-E MSD Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 37192									Prep	Batch:	37189
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<49.9	U	999	1182		mg/Kg		117	70 - 130	8	20
(GRO)-C6-C10											

1034

mg/Kg

999

<49.9 U Diesel Range Organics (Over C10-C28) MSD MSD

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37168/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 37251

MB MB Analyte Result Qualifier RL Unit Analyzed Dil Fac D Prepared Chloride <5.00 U 5.00 10/19/22 18:55 mg/Kg

Client: Ensolum Job ID: 890-3211-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-37168/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble**

Analysis Batch: 37251

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Chloride 250 267.9 mg/Kg 107 90 - 110

Lab Sample ID: LCSD 880-37168/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 37251

Spike LCSD LCSD %Rec RPD Added Unit Limit Analyte Result Qualifier D %Rec Limits RPD Chloride 250 263.6 mg/Kg 105 90 - 110

Lab Sample ID: 890-3209-A-1-L MS Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Soluble

Analysis Batch: 37251

%Rec Spike MS MS Sample Sample Analyte Result Qualifier Added Result Qualifier Unit Limits Chloride 368 1260 1563 90 - 110 mg/Kg

Lab Sample ID: 890-3209-A-1-M MSD Client Sample ID: Matrix Spike Duplicate **Prep Type: Soluble**

Matrix: Solid

Analysis Batch: 37251

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Qualifier Unit %Rec RPD Limit Result Limits 1260 Chloride 368 1610 90 - 110 20 mg/Kg

QC Association Summary

Client: Ensolum Job ID: 890-3211-1 Project/Site: JRU 163H SDG: 03E1558098

GC VOA

Prep Batch: 37159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-37159/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 37166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Total/NA	Solid	5035	
890-3211-2	PH03A	Total/NA	Solid	5035	
MB 880-37166/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3209-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3209-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Total/NA	Solid	8021B	37166
890-3211-2	PH03A	Total/NA	Solid	8021B	37166
MB 880-37159/5-A	Method Blank	Total/NA	Solid	8021B	37159
MB 880-37166/5-A	Method Blank	Total/NA	Solid	8021B	37166
LCS 880-37166/1-A	Lab Control Sample	Total/NA	Solid	8021B	37166
LCSD 880-37166/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37166
890-3209-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	37166
890-3209-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37166

Analysis Batch: 37616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-3	PH03B	Total/NA	Solid	8021B	37622
MB 880-37622/5-A	Method Blank	Total/NA	Solid	8021B	37622
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	8021B	37622
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37622
890-3211-3 MS	PH03B	Total/NA	Solid	8021B	37622
890-3211-3 MSD	PH03B	Total/NA	Solid	8021B	37622

Prep Batch: 37622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-3	PH03B	Total/NA	Solid	5035	
MB 880-37622/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3211-3 MS	PH03B	Total/NA	Solid	5035	
890-3211-3 MSD	PH03B	Total/NA	Solid	5035	

Analysis Batch: 37718

Lab Sample ID	Client Sample ID	Dran Tona	Matrix	Method	Prep Batch
890-3211-1	PH03	Prep Type Total/NA	Solid	Total BTEX	Prep Batch
890-3211-2	PH03A	Total/NA	Solid	Total BTEX	
890-3211-3	PH03B	Total/NA	Solid	Total BTEX	

QC Association Summary

 Client: Ensolum
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Total/NA	Solid	8015NM Prep	
890-3211-2	PH03A	Total/NA	Solid	8015NM Prep	
890-3211-3	PH03B	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Total/NA	Solid	8015B NM	37189
890-3211-2	PH03A	Total/NA	Solid	8015B NM	37189
890-3211-3	PH03B	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

Analysis Batch: 37302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Total/NA	Solid	8015 NM	
890-3211-2	PH03A	Total/NA	Solid	8015 NM	
890-3211-3	PH03B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Soluble	Solid	DI Leach	
890-3211-2	PH03A	Soluble	Solid	DI Leach	
890-3211-3	PH03B	Soluble	Solid	DI Leach	
MB 880-37168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3209-A-1-L MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3209-A-1-M MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3211-1	PH03	Soluble	Solid	300.0	37168
890-3211-2	PH03A	Soluble	Solid	300.0	37168
890-3211-3	PH03B	Soluble	Solid	300.0	37168
MB 880-37168/1-A	Method Blank	Soluble	Solid	300.0	37168
LCS 880-37168/2-A	Lab Control Sample	Soluble	Solid	300.0	37168
LCSD 880-37168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37168
890-3209-A-1-L MS	Matrix Spike	Soluble	Solid	300.0	37168
890-3209-A-1-M MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37168

Eurofins Carlsbad

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Client: Ensolum Job ID: 890-3211-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH03 Lab Sample ID: 890-3211-1

Date Collected: 10/12/22 15:30 **Matrix: Solid** Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	37166	10/17/22 14:12	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37451	10/22/22 16:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37718	10/24/22 16:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			37302	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 18:51	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37251	10/19/22 22:49	СН	EET MID

Lab Sample ID: 890-3211-2 Client Sample ID: PH03A Date Collected: 10/12/22 15:40 **Matrix: Solid**

Date Received: 10/17/22 12:12

Dil Initial Final Batch Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Prep 5035 4.99 g Total/NA 5 mL 37166 10/17/22 14:12 MNR EET MID Total/NA 8021B 5 mL 10/22/22 16:37 Analysis 1 5 mL 37451 MNR EET MID Total/NA Total BTEX 37718 10/24/22 16:26 Analysis SM **EET MID** 1 Total/NA Analysis 8015 NM 37302 10/19/22 10:33 SM **EET MID** Total/NA Prep 8015NM Prep 37189 10.04 g 10 mL 10/18/22 08:41 DM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 37192 10/18/22 19:12 SM **EET MID** Soluble Leach DI Leach 4.99 g 50 mL 37168 10/17/22 15:36 KS **EET MID** Soluble Analysis 300.0 10 50 mL 50 mL 37251 10/19/22 22:58 СН **EET MID**

Lab Sample ID: 890-3211-3 Client Sample ID: PH03B Date Collected: 10/12/22 15:45 **Matrix: Solid**

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 11:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37718	10/24/22 16:42	SM	EET MID
Total/NA	Analysis	8015 NM		1			37302	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 19:33	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37168	10/17/22 15:36	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37251	10/19/22 23:06	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
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report by	it the leberatory is not cortifi	ed by the governing authority. This list ma	arrimalizada amaliztaa farr
the agency does not of	• •	it the laboratory is not certifi	ed by the governing authority. This list his	ay include arialytes for
0 ,	• •	Matrix	Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

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Method Summary

 Client: Ensolum
 Job ID: 890-3211-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3211-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	
90-3211-1	PH03	Solid	10/12/22 15:30	10/17/22 12:12	
90-3211-2	PH03A	Solid	10/12/22 15:40	10/17/22 12:12	
890-3211-3	PH03B	Solid	10/12/22 15:45	10/17/22 12:12	!

Revised Date: 08/25/2020 Rev. 2020.2

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

Date/Time

Received by: (Signature)

ee/1/0,

Chain of Custody

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

Environment Testing Xenco

💸 eurofins

Work Order No:

							www.xenco.com	o.com Page	10
Project Manager:	Belill		Bill to: (if different)	ŋ	Garrett Green	5	Work O	Work Order Comments	
	Ensolum, LLC		Company Name:		XTO Energy		Program: UST/PST] Brownfields ☐ RRC ☐	C Superfund
	3122 Natil Pares	Fut s	Address:		3104 E Greene	St	State of Project:		
e ZIP:	bad, NM	38220	City, State ZIP:	C	Carlsbad, NM 88220		Reporting: Level II 🔲 Level III 🗍		PST/UST TRRP Level IV
Phone: 989	989,854,0852 Ema	2 Email:		11 Oen	obelill@ensolum.com		Deliverables: EDD	ADaPT ☐ Other:	er:
Project Name:	163H	Turn ,	Turn Around			ANALYSIS REQUEST		Preserva	Preservative Codes
er:	0381558098	Routine	Rush	Pres. Code				None: NO	DI Water: H ₂ O
Project Location: 32.38(742 -103.88	El Bue Date:						Cool: Cool	MeOH: Me
	Meredith Roberty TAT starts th	TAT starts the	TAT starts the day received by	_				HCL: HC	HNO 3: HN
		the lab, if received l	eived by 4:30pm			-		H ₂ S0 4: H ₂	NaOH: Na
SAMPLE RECEIPT Tem	Temp Blank: (Se) No	Wet Ice:	(es) No	eters				H ₃ PO ₄ : HP	
Samples Received Intact:	(Yes) No Thermometer ID:	eter ID:	TAM ED7	men	5.			NaHSO 4: NABIS	Si
Cooler Custody Seals: Yes	No	n Factor:	C'0-		do			Na ₂ S ₂ O ₃ : NaSO ₃	0 3
Sample Custody Seals: Yes	No N/A Tempera	Temperature Reading:	30		្រ	MINIMUM INTERNATION	dy	Zn Acetate+NaOH: Zn	aOH: Zn
Total Containers:	Correcte	Corrected Temperature:	3.6		21	890-3211 Chain of Con-		NaOH+Ascorbic Acid: SAPC	ic Acid: SAPC
Sample Identification	Matrix Sampled	Time	Depth Grab/	# of Cont	16 B Ch			Sample	Sample Comments
PH53	S 1012	10/12/12 1530	2' 6	<u>^</u>	XX			Incident#	ロナ井
PH03A		1540	\Box					DAPP22	nAPP1219649599
PHOSB	→	1545	≥, ↑	→	→			•	
				1	- ARR			COST	COST CENTER
		\						11406	40601001
	\	1							
	\								
Total 200.7 / 6010 200.8	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al Sb As	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K	Cu Fe Pb Mg M	. >) -	Zn
Circle Method(s) and Metal(s) to be analyzed) to be analyzed	TCLP/S	PLP 6010 : 8RC	RA Sb A	TCLP/SPLP6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag II U	b Mn Mo Ni Se A		Hg: 1631 / 245.1 / 74/0 / 74/1	
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from lof service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility.	Ishment of samples constitute the cost of samples and shall	s a valid purchase ord not assume any respo	ler from client company	y to Eurofins X or expenses in	client company to Eurofins Xenco, its effiliates and subcontractors. It assigns standard terms and conditions of for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control	t assigns standard terms and Le to circumstances beyond	l conditions 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	0 will be applied to each proje	ct and a charge of \$5	for each sample submi	itted to Eurofir	is Xenco, but not analyzed. These terr	s will be enforced unless pre	nously negotiated.		

Login Sample Receipt Checklist

 Client: Ensolum
 Job Number: 890-3211-1

 SDG Number: 03E1558098

Login Number: 3211 List Source: Eurofins Carlsbad

List Number: 1 Creator: Stutzman, Amanda

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

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<6mm (1/4").

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3211-1 SDG Number: 03E1558098

Login Number: 3211 List Source: Eurofins Midland
List Number: 2 List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").





Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3212-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

Authorized for release by: 10/25/2022 11:13:14 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Review your project results through EOL **Have a Question?**

.....LINKS

Received by OCD: 1/6/2023 9:24:55 AM

Visit us at:

www.eurofinsus.com/Env Released to Imaging: 5/9/2023 1:49:46 PM 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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3212-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-3212-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC VOA

Qualifier **Qualifier Description**

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

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

HPLC/IC

Qualifier **Qualifier Description**

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

MLMinimum Level (Dioxin) Most Probable Number MPN MQL Method Quantitation Limit

Not Calculated NC

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NFG 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)

Relative Percent Difference, a measure of the relative difference between two points RPD

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

Job ID: 890-3212-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Job ID: 890-3212-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3212-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH02 (890-3212-1), PH02A (890-3212-2) and PH02B (890-3212-3).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

HPLC/IC

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

Lab Sample ID: 890-3212-1

Client Sample Results

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH02

Date Collected: 10/13/22 09:50 Date Received: 10/17/22 12:12

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/24/22 09:35	10/24/22 16:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			10/24/22 09:35	10/24/22 16:07	1
1,4-Difluorobenzene (Surr)	99		70 - 130			10/24/22 09:35	10/24/22 16:07	1
- Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/25/22 12:00	1
Method: SW846 8015 NM - Diese Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	105		49.8	ma/Ka			10/19/22 10:33	1
Total TPH	105			mg/Kg			10/19/22 10:33	
: Method: SW846 8015B NM - Dies	sel Range Orga		(GC)					1
Method: SW846 8015B NM - Dies Analyte	sel Range Orga Result	Qualifier	(GC)	Unit	D	Prepared	Analyzed	1 Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics	sel Range Orga	Qualifier	(GC)		<u>D</u>	Prepared 10/18/22 08:41		1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	sel Range Orga Result	Qualifier	(GC)	Unit	<u>D</u>		Analyzed	1 Dil Fac
Method: SW846 8015B NM - Dies	sel Range Orga Result <49.8	Qualifier U	(GC) RL 49.8	Unit mg/Kg	<u>D</u>	10/18/22 08:41	Analyzed 10/18/22 16:23	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.8	Qualifier U	(GC) RL 49.8	Unit mg/Kg mg/Kg	<u>D</u>	10/18/22 08:41 10/18/22 08:41	Analyzed 10/18/22 16:23	1 Dil Fac 1 1
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	sel Range Orga Result <49.8 105 <49.8	Qualifier U	(GC) RL 49.8 49.8 49.8	Unit mg/Kg mg/Kg	<u>D</u>	10/18/22 08:41 10/18/22 08:41 10/18/22 08:41	Analyzed 10/18/22 16:23 10/18/22 16:23 10/18/22 16:23	Dil Fac 1 1 Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	sel Range Orga Result <49.8 105 <49.8 %Recovery	Qualifier U	(GC) RL 49.8 49.8 49.8 Limits	Unit mg/Kg mg/Kg	<u>D</u>	10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 <i>Prepared</i>	Analyzed 10/18/22 16:23 10/18/22 16:23 10/18/22 16:23 Analyzed	Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Sel Range Orga Result <49.8 105 <49.8	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg	<u>D</u>	10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared 10/18/22 08:41	Analyzed 10/18/22 16:23 10/18/22 16:23 10/18/22 16:23 Analyzed 10/18/22 16:23	Dil Fac 1 1 Dil Fac
Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	Unit mg/Kg mg/Kg	<u>D</u>	10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared 10/18/22 08:41	Analyzed 10/18/22 16:23 10/18/22 16:23 10/18/22 16:23 Analyzed 10/18/22 16:23	1 Dil Fac 1 1 1 1 Dil Fac 1

Client Sample ID: PH02A

Date Collected: 10/13/22 10:00 Date Received: 10/17/22 12:12

Sample Depth: 4'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 16:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130			10/24/22 09:35	10/24/22 16:27	

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Lab Sample ID: 890-3212-2

Matrix: Solid

Released to Imaging: 5/9/2023 1:49:46 PM

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Lab Sample ID: 890-3212-2

Job ID: 890-3212-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH02A

Date Collected: 10/13/22 10:00 Date Received: 10/17/22 12:12

Sample Depth: 4'

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

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92	70 - 130	10/24/22 09:35	10/24/22 16:27	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/25/22 12:00	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	610		49.9	mg/Kg			10/19/22 10:33	1

Method: SW846 8015B NM - Diesel Range Organics	(DRO)	(GC)	١
motified. Offerto College Ithin Biodol Rungo Organico	(5.10)	, , , , ,	,

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/18/22 08:41	10/18/22 16:44	1
Diesel Range Organics (Over C10-C28)	526		49.9	mg/Kg		10/18/22 08:41	10/18/22 16:44	1
Oll Range Organics (Over C28-C36)	84.0		49.9	mg/Kg		10/18/22 08:41	10/18/22 16:44	1

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102	70 - 130	10/18/22 08:41	10/18/22 16:44	1
o-Terphenyl	112	70 - 130	10/18/22 08:41	10/18/22 16:44	1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2010		25.0	mg/Kg			10/19/22 15:50	5

Client Sample ID: PH02B Lab Sample ID: 890-3212-3 Date Collected: 10/13/22 10:15 **Matrix: Solid**

Date Received: 10/17/22 12:12

Sample Depth: 7'

Welliou: 344040 0021B - Voial	SW646 602 TB - Volatile Organic Compounds (GC)							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
Toluene	< 0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/24/22 09:35	10/24/22 16:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			10/24/22 09:35	10/24/22 16:48	1
1,4-Difluorobenzene (Surr)	84		70 - 130			10/24/22 09:35	10/24/22 16:48	1

Mothod: TAI	SOP Total BTFX -	Total DTEV	Coloulation
IVIETTION: IAI	OUP IOMIDIES -	IOM DIEA	Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398		0.00398	mg/Kg			10/25/22 12:00	1

Lab Sample ID: 890-3212-3

Client Sample Results

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: PH02B

Date Collected: 10/13/22 10:15 Date Received: 10/17/22 12:12

Sample Depth: 7'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			10/19/22 10:33	1
Method: SW846 8015B NM - Diesel	Range Orga	nics (DRO) (0	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/18/22 08:41	10/18/22 17:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/18/22 08:41	10/18/22 17:06	1
Oll Range Organics (Over C28-C36)	<49.9	11	49.9	mg/Kg		10/18/22 08:41	10/18/22 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130	10/18/22 08:41	10/18/22 17:06	1
o-Terphenyl	108		70 - 130	10/18/22 08:41	10/18/22 17:06	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble								
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Chloride	361	4.95	mg/Kg			10/19/22 15:55	1	

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Surrogate Summary

Job ID: 890-3212-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

-				Percent Surrogate Re
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3211-A-3-E MS	Matrix Spike	105	107	
890-3211-A-3-F MSD	Matrix Spike Duplicate	122	90	
890-3212-1	PH02	93	99	
890-3212-2	PH02A	99	92	
890-3212-3	PH02B	117	84	
LCS 880-37622/1-A	Lab Control Sample	100	103	
LCSD 880-37622/2-A	Lab Control Sample Dup	117	95	
MB 880-37622/5-A	Method Blank	87	93	
Surrogate Legend				
BFB = 4-Bromofluoroben	zene (Surr)			

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-20421-A-45-D MS	Matrix Spike	91	90	
880-20421-A-45-E MSD	Matrix Spike Duplicate	91	89	
890-3212-1	PH02	93	106	
890-3212-2	PH02A	102	112	
890-3212-3	PH02B	95	108	
LCS 880-37189/2-A	Lab Control Sample	96	110	
LCSD 880-37189/3-A	Lab Control Sample Dup	97	113	
MB 880-37189/1-A	Method Blank	114	132 S1+	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum Job ID: 890-3212-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37622/5-A

Matrix: Solid Analysis Batch: 37616 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37622

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1

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Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	10/24/22 09:	35 10/24/22 10:58	1
1,4-Difluorobenzene (Surr)	93		70 - 130	10/24/22 09:	35 10/24/22 10:58	1

Lab Sample ID: LCS 880-37622/1-A

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09878		mg/Kg		99	70 - 130	
Toluene	0.100	0.09273		mg/Kg		93	70 - 130	
Ethylbenzene	0.100	0.09307		mg/Kg		93	70 - 130	
m-Xylene & p-Xylene	0.200	0.1928		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09522		mg/Kg		95	70 - 130	

LCS LCS

Surrogate	%Recovery Q	ualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-37622/2-A

Matrix: Solid

Analysis Batch: 37616

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1046		mg/Kg		105	70 - 130	6	35
Toluene	0.100	0.1043		mg/Kg		104	70 - 130	12	35
Ethylbenzene	0.100	0.1118		mg/Kg		112	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.2373		mg/Kg		119	70 - 130	21	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	21	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	117		70 - 130
1.4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-3211-A-3-E MS

Matrix: Solid

Analysis Batch: 37616

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

Prep Batch: 37622

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.09725		mg/Kg	_	97	70 - 130	
Toluene	<0.00200	U	0.0998	0.08867		mg/Kg		89	70 - 130	

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QC Sample Results

Client: Ensolum Job ID: 890-3212-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 890-3211-A-3-E MS

Matrix: Solid Analysis Batch: 37616

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ethylbenzene <0.00200 U 0.0998 0.08819 88 70 - 130 mg/Kg m-Xylene & p-Xylene <0.00401 0.200 0.1815 mg/Kg 91 70 - 130 0.0998 o-Xylene <0.00200 U 0.08871 89 70 - 130 mg/Kg

MS MS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

Lab Sample ID: 890-3211-A-3-F MSD

Matrix: Solid

Analysis Batch: 37616

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

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37622

Prep Batch: 37622

Sample Sample Spike MSD MSD RPD Result Qualifier Result Qualifier RPD Limit Analyte Added Unit %Rec Limits Benzene <0.00200 U 0.0990 0.08785 mg/Kg 89 70 - 130 10 35 Toluene <0.00200 U 0.0990 0.08833 mg/Kg 89 70 - 130 0 35 Ethylbenzene <0.00200 U 0.0990 0.09287 94 70 - 130 5 35 mg/Kg 0.198 0.1989 70 - 130 35 m-Xylene & p-Xylene <0.00401 U mg/Kg 100 9 <0.00200 U 0.0990 0.09869 70 - 130 o-Xylene mg/Kg 100 11

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

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

Lab Sample ID: MB 880-37189/1-A

Matrix: Solid

Analysis Batch: 37192

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37189

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	10/18/22 08:41	10/18/22 10:43	1
o-Terphenyl	132	S1+	70 - 130	10/18/22 08:41	10/18/22 10:43	1

Lab Sample ID: LCS 880-37189/2-A

Matrix: Solid

Analysis Batch: 37192

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

Prep Batch: 37189

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	917.8		mg/Kg		92	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	861.0		mg/Kg		86	70 - 130	
C10-C28)								

Job ID: 890-3212-1

SDG: 03E1558098

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

LCS LCS

Lab Sample ID: LCS 880-37189/2-A Client Sample ID: Lab Control Sample

Matrix: Solid

Analysis Batch: 37192

Client: Ensolum Project/Site: JRU 163H

Prep Type: Total/NA

Prep Batch: 37189

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 96 70 - 130 o-Terphenyl 110 70 - 130

Lab Sample ID: LCSD 880-37189/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 899.3 90 70 - 1302 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 878.4 88 mg/Kg 70 - 1302 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 97 70 - 130 1-Chlorooctane 113 70 - 130 o-Terphenyl

Lab Sample ID: 880-20421-A-45-D MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Sample Sample MS MS Spike Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 999 1087 mg/Kg 107 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1026 mg/Kg 99 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 91 o-Terphenyl 90 70 - 130

Lab Sample ID: 880-20421-A-45-E MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics U 999 1182 <49.9 117 70 - 130 8 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1034 mg/Kg 100 70 - 130 20 C10-C28)

MSD MSD

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

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Prep Type: Soluble

Prep Type: Soluble

Client Sample ID: PH02

Client Sample ID: PH02

Prep Type: Soluble

Prep Type: Soluble

QC Sample Results

Client: Ensolum Job ID: 890-3212-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37169/1-A

Matrix: Solid

Analysis Batch: 37281

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 10/19/22 13:20

Lab Sample ID: LCS 880-37169/2-A

Matrix: Solid

Analysis Batch: 37281

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 253.7 mg/Kg 101 90 - 110

Lab Sample ID: LCSD 880-37169/3-A

Matrix: Solid

Analysis Batch: 37281

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Chloride 250 254.7 mg/Kg 102 90 - 110

Lab Sample ID: 890-3212-1 MS

Matrix: Solid

Analysis Batch: 37281

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Unit %Rec Result Qualifier Limits Chloride 2820 2490 5384 103 90 - 110 mg/Kg

Lab Sample ID: 890-3212-1 MSD

Matrix: Solid

Analysis Batch: 37281

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 2490 Chloride 2820 5392 mg/Kg 103 90 - 110 0 20

QC Association Summary

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA

Analysis Batch: 37616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	8021B	37622
890-3212-2	PH02A	Total/NA	Solid	8021B	37622
890-3212-3	PH02B	Total/NA	Solid	8021B	37622
MB 880-37622/5-A	Method Blank	Total/NA	Solid	8021B	37622
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	8021B	37622
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37622
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	8021B	37622
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37622

Prep Batch: 37622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	5035	
890-3212-2	PH02A	Total/NA	Solid	5035	
890-3212-3	PH02B	Total/NA	Solid	5035	
MB 880-37622/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	Total BTEX	
890-3212-2	PH02A	Total/NA	Solid	Total BTEX	
890-3212-3	PH02B	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	8015NM Prep	
890-3212-2	PH02A	Total/NA	Solid	8015NM Prep	
890-3212-3	PH02B	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Released to Imaging: 5/9/2023 1:49:46 PM

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	8015B NM	37189
890-3212-2	PH02A	Total/NA	Solid	8015B NM	37189
890-3212-3	PH02B	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

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QC Association Summary

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC Semi VOA

Analysis Batch: 37300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Total/NA	Solid	8015 NM	
890-3212-2	PH02A	Total/NA	Solid	8015 NM	
890-3212-3	PH02B	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Soluble	Solid	DI Leach	
890-3212-2	PH02A	Soluble	Solid	DI Leach	
890-3212-3	PH02B	Soluble	Solid	DI Leach	
MB 880-37169/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3212-1 MS	PH02	Soluble	Solid	DI Leach	
890-3212-1 MSD	PH02	Soluble	Solid	DI Leach	

Analysis Batch: 37281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3212-1	PH02	Soluble	Solid	300.0	37169
890-3212-2	PH02A	Soluble	Solid	300.0	37169
890-3212-3	PH02B	Soluble	Solid	300.0	37169
MB 880-37169/1-A	Method Blank	Soluble	Solid	300.0	37169
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	300.0	37169
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37169
890-3212-1 MS	PH02	Soluble	Solid	300.0	37169
890-3212-1 MSD	PH02	Soluble	Solid	300.0	37169

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Client: Ensolum Job ID: 890-3212-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH02 Lab Sample ID: 890-3212-1 Date Collected: 10/13/22 09:50

Matrix: Solid

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 16:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37813	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37300	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 16:23	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	37281	10/19/22 13:34	CH	EET MID

Client Sample ID: PH02A Lab Sample ID: 890-3212-2

Date Collected: 10/13/22 10:00 Matrix: Solid Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 16:27	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37813	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37300	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 16:44	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37281	10/19/22 15:50	CH	EET MID

Client Sample ID: PH02B Lab Sample ID: 890-3212-3

Date Collected: 10/13/22 10:15 **Matrix: Solid** Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 16:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37813	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37300	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 17:06	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37281	10/19/22 15:55	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NI	ELAP	T104704400-22-24	06-30-23
The fellowing englytes			11 0 1 0 1 TO THE	
the agency does not of	. ,	ut the laboratory is not certili	ed by the governing authority. This list ma	ay include analytes for
0 ,	. ,	It the laboratory is not certilion Matrix	ed by the governing authority. This list ma Analyte	ay include analytes for
the agency does not of	fer certification.	•	, , ,	ay include analytes for

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Method Summary

 Client: Ensolum
 Job ID: 890-3212-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3212-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Dep
890-3212-1	PH02	Solid	10/13/22 09:50	10/17/22 12:12	2'
890-3212-2	PH02A	Solid	10/13/22 10:00	10/17/22 12:12	4'
890-3212-3	PH02B	Solid	10/13/22 10:15	10/17/22 12:12	7'

Revised Date 08/25/2020 Rev. 2020.2

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

P P P

Date/Time

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. botice. Signature of this document and relinquishment of samples constitutes a vailed purchase order from client company to Eurofins Xenco, its affiliases and subcontractors. It assigns standard terms and conditions 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

Received by: (Signature)

Relinquished by: (Signature)

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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

eurofins | Environment Testing

Work Order No:

								www.xenco.com	m Pageof
Project Manager:	Ren Belill			Bill to: (if different)	0	Giannett Green	inen	Work Order Comments	Comments
Company Name:	Enschum, L	ال		Company Name:		XTO Encray	ran	Program: UST/PST	rownfields RRC Superfund
Address:	3122 Nati Parks	Parks	had	Address:		3104 E Greene	ore St	State of Project:	
City, State ZIP:	brispad,	28 MN	3220	City, State ZIP:	IC:	artsbad, N	Carisbad, NM 88220	Reporting: Level II	Reporting: Level III Level III PST/UST TRRP Level IV
Phone:	989:854:0852 Em	0852	Email:		i Re	boeiill@ensolum,com	b.m	Deliverables: EDD AD	ADaPT ☐ Other:
Project Name:	JRU 163H	+	Turn	Turn Around			ANALYSIS REQUEST	EST	Preservative Codes
er:	03E1558098		Routine	Rush	Pres. Code				None: NO DI Water: H ₂ O
	32.38042, -103.8842Pue Date:	13.8842	Due Date:						Cool: Cool MeOH: Me
	Meredith Roberts	specits	TAT starts the	TAT starts the day received by					HCL: HC HNO 3: HN
			the lab, if rec	eived by 4:30pm			-		H ₂ S0 4: H ₂ NaOH: Na
SAMPLE RECEIPT	Temp Blank:	(E) No	Wet Ice:	on (S)	eters				H ₃ PO ₄ : HP
Samples Received Intact:	oN (geg)	Thermometer ID:	rD:	TOWNS	mer	S			NaHSO 4: NABIS
Cooler Custody Seals:	Yes No NA	Correction Factor:	actor:	C. C-	Бq				Na ₂ S ₂ O ₃ : NaSO ₃
Sample Custody Seals:	Yes No NVA	Temperature Reading:	Reading:	3.8		010	890-3212 Chain of Custody	Custody	Zn Acetate+NaOH: Zn
Total Containers:		Corrected Temperature:	mperature:	3,6	X:	101			NaOH+Ascorbic Acid: SAPC
Sample Identification	ation Matrix	x Date Sampled	Time Sampled	Depth Grab/	B1E	19.7			Sample Comments
PH02	S	10/13/22 0950	88	7, 6	X -	X			Incident #
PH02A	-	-	1000	4,	1	-			nApp2219649599
PHOZB	~	>	1015	→ /6	7 7	つ フ フ			
					1	- TAKE			Cost Center
			\						1140601001
		1							
		1							
Total 200.7 / 6010	200.8 / 6020:		BRCRA 13PPM	Texas 11	Al Sb As	Ba Be B Cd Ca C	Tr Co Cu Fe Pb Mg	Ni K Se	5r TI Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	d Metal(s) to be an	alyzed	TCLP / SPLP	PLP 6010 : 8KC	KA SD AS	s Ba Be Cd Cr Co	6010 : 8KCKA SB As Ba Be Cd Cr Co Cu PB Min Mo Ni Se Ag II U	e Ag II U Hg: 1631 / 245.1 / 7470 / 7471	1/4/0/4/1

Page 19 of 21

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3212-1

SDG Number: 03E1558098

Login Number: 3212 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3212-1 SDG Number: 03E1558098

Login Number: 3212
List Source: Eurofins Midland
List Number: 2
List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").





Received by OCD: 1/6/2023 9:24:55 AM

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3213-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

10/25/2022 11:13:14 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

Have a Question?

EOL

.....LINKS

Review your project results through

Visit us at:

www.eurofinsus.com/Env Released to Imaging: 5/9/2023 1:49:46 PM

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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3213-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-3213-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC VOA

Qualifier **Qualifier Description**

Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier **Qualifier Description**

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

HPLC/IC

Qualifier **Qualifier Description**

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 MLMinimum Level (Dioxin) Most Probable Number MPN MQL Method Quantitation Limit

Not Calculated NC

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NFG 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)

Relative Percent Difference, a measure of the relative difference between two points RPD

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

 Client: Ensolum
 Job ID: 890-3213-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3213-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3213-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3213-1), PH01A (890-3213-2), PH01B (890-3213-3) and PH01C (890-3213-4).

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-37189 and analytical batch 880-37192 was outside the upper control limits.

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

HPLC/IC

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

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Job ID: 890-3213-1 SDG: 03E1558098

Project/Site: JRU 163H

Client Sample ID: PH01

Lab

Lab Sample ID: 890-3213-1

Date Collected: 10/13/22 11:05
Date Received: 10/17/22 12:12

Matrix: Solid

Sample Depth: 2'

Client: Ensolum

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 17:08	-
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 17:08	
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 17:08	
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		10/24/22 09:35	10/24/22 17:08	
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 17:08	
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		10/24/22 09:35	10/24/22 17:08	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	97		70 - 130			10/24/22 09:35	10/24/22 17:08	
1,4-Difluorobenzene (Surr)	98		70 - 130			10/24/22 09:35	10/24/22 17:08	
Method: TAL SOP Total BTEX -	- Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00401	U	0.00401	mg/Kg			10/25/22 12:00	
	•		•	Unit	n	Propared	Analyzod	Nil Fa
Analyte	Result	ics (DRO) (RL	Unit	<u>D</u>	Prepared	Analyzed 10/19/22 10:33	
Analyte	•		•	Unit mg/Kg	<u>D</u>	Prepared	Analyzed 10/19/22 10:33	
Analyte Total TPH	Result 1370	Qualifier	50.0		<u>D</u>	Prepared		
Analyte Total TPH Method: SW846 8015B NM - Di	Result 1370 esel Range Orga	Qualifier	50.0		<u>D</u>	Prepared Prepared		
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics	Result 1370 esel Range Orga	Qualifier nics (DRO) Qualifier	RL 50.0	mg/Kg			10/19/22 10:33	Dil Fa
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result 1370 esel Range Orga Result	Qualifier nics (DRO) Qualifier	RL	mg/Kg		Prepared	10/19/22 10:33 Analyzed	Dil Fa
Method: SW846 8015 NM - Dies Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result 1370 esel Range Orga Result < 50.0	Qualifier nics (DRO) Qualifier	(GC) RL 50.0	mg/Kg Unit mg/Kg		Prepared 10/18/22 08:41	10/19/22 10:33 Analyzed 10/18/22 17:27	Dil Fa
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)		Qualifier nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41	10/19/22 10:33 Analyzed 10/18/22 17:27 10/18/22 17:27	Dil Fa
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result 1370	Qualifier nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41	Analyzed 10/18/22 17:27 10/18/22 17:27 10/18/22 17:27	Dil Fa
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over	Result 1370	Qualifier nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared	Analyzed 10/18/22 17:27 10/18/22 17:27 10/18/22 17:27 Analyzed	Dil Fa
Analyte Total TPH Method: SW846 8015B NM - Di Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result 1370	Qualifier nics (DRO) Qualifier U	RL 50.0 (GC) RL 50.0 50.0 50.0 Limits 70 - 130 70 - 130	mg/Kg Unit mg/Kg mg/Kg		Prepared 10/18/22 08:41 10/18/22 08:41 10/18/22 08:41 Prepared 10/18/22 08:41	Analyzed 10/18/22 17:27 10/18/22 17:27 10/18/22 17:27 Analyzed 10/18/22 17:27	Dil Fa

Client Sample ID: PH01A Lab Sample ID: 890-3213-2

5100

49.8

mg/Kg

Date Collected: 10/13/22 11:15
Date Received: 10/17/22 12:12

Sample Depth: 4'

Chloride

Method: SW846 8021B - Vol	atile Organic Comp	ounds (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 17:29	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 17:29	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 17:29	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/24/22 09:35	10/24/22 17:29	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 17:29	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/24/22 09:35	10/24/22 17:29	1

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10/19/22 13:59

Matrix: Solid

Released to Imaging: 5/9/2023 1:49:46 PM Page 5 of 23 10/25/2022

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4.0

Lab Sample ID: 890-3213-2

Job ID: 890-3213-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH01A

Date Collected: 10/13/22 11:15 Date Received: 10/17/22 12:12

Sample Depth: 4'

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94	70 - 130	10/24/22 09:35	10/24/22 17:29	1
1,4-Difluorobenzene (Surr)	98	70 - 130	10/24/22 09:35	10/24/22 17:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Total BTEX <0.00402 0.00402 10/25/22 12:00 mg/Kg

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

Result Qualifier RL Unit D Prepared Analyzed Dil Fac Total TPH <49.8 U 49.8 mg/Kg 10/19/22 10:33

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

Result Qualifier D Analyte RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics <49.8 U 49.8 10/18/22 08:41 10/18/22 17:48 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.8 U 49.8 mg/Kg 10/18/22 08:41 10/18/22 17:48 C10-C28) Oll Range Organics (Over C28-C36) <49.8 U 49.8 mg/Kg 10/18/22 08:41 10/18/22 17:48

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130	10/18/22 08:41	10/18/22 17:48	1
o-Terphenyl	121		70 - 130	10/18/22 08:41	10/18/22 17:48	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac 50.4 10/19/22 14:03 Chloride 1310 mg/Kg

Client Sample ID: PH01B Lab Sample ID: 890-3213-3 Matrix: Solid

Date Collected: 10/13/22 11:30 Date Received: 10/17/22 12:12

Sample Depth: 7'

Metriod. 3W646 602 FB - Volatile Organic Compounds (GC)						
	Analyte	Result	Qualifier			
	Benzene	<0.00199	U			

RL Unit D Prepared Analyzed Dil Fac 0.00199 mg/Kg 10/24/22 09:35 10/24/22 17:49 Toluene <0.00199 U 0.00199 10/24/22 09:35 10/24/22 17:49 mg/Kg Ethylbenzene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 17:49 <0.00398 U 0.00398 10/24/22 17:49 m-Xylene & p-Xylene mg/Kg 10/24/22 09:35 o-Xylene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 17:49 Xylenes, Total <0.00398 U 0.00398 mg/Kg 10/24/22 09:35 10/24/22 17:49

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	10/24/22 09:35	10/24/22 17:49	1
1,4-Difluorobenzene (Surr)	95		70 - 130	10/24/22 09:35	10/24/22 17:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte Result Qualifier RL Dil Fac Unit D Prepared Analyzed Total BTEX <0.00398 0.00398 10/25/22 12:00 mg/Kg

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

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed **Total TPH** 1560 50.0 mg/Kg 10/19/22 10:33

Lab Sample ID: 890-3213-3

Client Sample Results

Job ID: 890-3213-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH01B

Date Collected: 10/13/22 11:30 Date Received: 10/17/22 12:12

Sample Depth: 7'

Method: SW846 8015B NM - Die	esel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 18:09	1
(GRO)-C6-C10								
Diesel Range Organics (Over	1380		50.0	mg/Kg		10/18/22 08:41	10/18/22 18:09	1
C10-C28)								
Oll Range Organics (Over	181		50.0	mg/Kg		10/18/22 08:41	10/18/22 18:09	1
C28-C36)								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130			10/18/22 08:41	10/18/22 18:09	1
o-Terphenyl	102		70 - 130			10/18/22 08:41	10/18/22 18:09	1
- Method: MCAWW 300.0 - Anior	s, Ion Chromato	ography - So	oluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3740		99.2	mg/Kg			10/19/22 14:18	20

Client Sample ID: PH01C Lab Sample ID: 890-3213-4 Date Collected: 10/13/22 13:15 **Matrix: Solid**

Date Received: 10/17/22 12:12

Sample Depth: 11'

Method: SW846 8021B - Volatile Organic Compounds (GC) Result Qualifier Analyte RL Unit D Prepared Analyzed Dil Fac Benzene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 18:09 Toluene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 18:09 Ethylbenzene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 18:09 <0.00398 U 0.00398 10/24/22 09:35 10/24/22 18:09 m-Xylene & p-Xylene mg/Kg o-Xylene <0.00199 U 0.00199 mg/Kg 10/24/22 09:35 10/24/22 18:09 Xylenes, Total <0.00398 U 0.00398 mg/Kg 10/24/22 09:35 10/24/22 18:09 Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 70 - 130 10/24/22 09:35 10/24/22 18:09 4-Bromofluorobenzene (Surr) 102 1,4-Difluorobenzene (Surr) 70 - 130 10/24/22 09:35 10/24/22 18:09 **Method: TAL SOP Total BTEX - Total BTEX Calculation** Analyte Result Qualifier Unit D RL Prepared Analyzed Dil Fac Total BTEX <0.00398 U 0.00398 10/25/22 12:00 mg/Kg Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Result Qualifier RL Unit D Prepared Analyzed Dil Fac Total TPH <49.9 49.9 10/19/22 10:33 mg/Kg Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC) Result Qualifier RL Unit Prepared Analyzed Dil Fac <49.9 U 49.9 10/18/22 08:41 10/18/22 18:30 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 49.9 mg/Kg 10/18/22 08:41 10/18/22 18:30 C10-C28) OII Range Organics (Over C28-C36) <49.9 U 49.9 mg/Kg 10/18/22 08:41 10/18/22 18:30

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Analyzed

10/18/22 18:30

10/18/22 18:30

Prepared

10/18/22 08:41

10/18/22 08:41

Limits

70 - 130

70 - 130

%Recovery

98

111

Qualifier

Dil Fac

Surrogate

o-Terphenyl

1-Chlorooctane

Client Sample Results

Client: Ensolum Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH01C Lab Sample ID: 890-3213-4

Date Collected: 10/13/22 13:15 Matrix: Solid

Date Received: 10/17/22 12:12 Sample Depth: 11'

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
	Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
	Chloride	126	5.02	mg/Kg			10/19/22 16:10	1		

DFBZ = 1,4-Difluorobenzene (Surr)

Surrogate Summary

Client: Ensolum Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		DED4	DED 74	Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3211-A-3-E MS	Matrix Spike	105	107	
890-3211-A-3-F MSD	Matrix Spike Duplicate	122	90	
890-3213-1	PH01	97	98	
890-3213-2	PH01A	94	98	
890-3213-3	PH01B	127	95	
890-3213-4	PH01C	102	93	
LCS 880-37622/1-A	Lab Control Sample	100	103	
LCSD 880-37622/2-A	Lab Control Sample Dup	117	95	
MB 880-37622/5-A	Method Blank	87	93	
Surrogate Legend				

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

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

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Sample ID	Client Sample ID	(70-130)	(70-130)	
-20421-A-45-D MS	Matrix Spike	91	90	
20421-A-45-E MSD	Matrix Spike Duplicate	91	89	
)-3213-1	PH01	102	109	
3213-2	PH01A	109	121	
-3213-3	PH01B	95	102	
-3213-4	PH01C	98	111	
8 880-37189/2-A	Lab Control Sample	96	110	
SD 880-37189/3-A	Lab Control Sample Dup	97	113	
880-37189/1-A	Method Blank	114	132 S1+	

1CO = 1-Chlorooctane OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum Job ID: 890-3213-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37622/5-A

Matrix: Solid Analysis Batch: 37616 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37622

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130	10/24/22 09:	35 10/24/22 10:58	1
1,4-Difluorobenzene (Surr)	93		70 - 130	10/24/22 09:	35 10/24/22 10:58	1

Lab Sample ID: LCS 880-37622/1-A

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09878		mg/Kg		99	70 - 130	
Toluene	0.100	0.09273		mg/Kg		93	70 - 130	
Ethylbenzene	0.100	0.09307		mg/Kg		93	70 - 130	
m-Xylene & p-Xylene	0.200	0.1928		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09522		mg/Kg		95	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Lab Sample ID: LCSD 880-37622/2-A

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1046		mg/Kg		105	70 - 130	6	35
Toluene	0.100	0.1043		mg/Kg		104	70 - 130	12	35
Ethylbenzene	0.100	0.1118		mg/Kg		112	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.2373		mg/Kg		119	70 - 130	21	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	21	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	117	70 - 130
1,4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: 890-3211-A-3-E MS

Matrix: Solid

Analysis Batch: 37616

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

Prep Batch: 37622

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.09725		mg/Kg	_	97	70 - 130	
Toluene	<0.00200	U	0.0998	0.08867		mg/Kg		89	70 - 130	

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QC Sample Results

Client: Ensolum Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 890-3211-A-3-E MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 37616

Sample	Sample	Spike	MS	MS				%Rec	
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
<0.00200	U	0.0998	0.08819		mg/Kg		88	70 - 130	
<0.00401	U	0.200	0.1815		mg/Kg		91	70 - 130	
<0.00200	U	0.0998	0.08871		mg/Kg		89	70 - 130	
	Result <0.00200 <0.00401	Result Qualifier	Result Qualifier Added <0.00200	Result Qualifier Added Result <0.00200	Result Qualifier Added Result Qualifier <0.00200	Result Qualifier Added Result Qualifier Unit <0.00200	Result Qualifier Added Result Qualifier Unit D <0.00200	Result Qualifier Added Result Qualifier Unit D %Rec <0.00200	Result Qualifier Added Result Qualifier Unit D %Rec Limits <0.00200

MS MS

Surrogate	%Recovery Qualif	ier Limits
4-Bromofluorobenzene (Surr)	105	70 - 130
1,4-Difluorobenzene (Surr)	107	70 - 130

Lab Sample ID: 890-3211-A-3-F MSD

Matrix: Solid

Analysis Batch: 37616

lient	Sample	ID:	Matrix	Spike	Duplicate)
			D		- T-4-1/614	

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 37622

Prep Batch: 37622

Sample Sample Spike MSD MSD RPD Result Qualifier Result Qualifier RPD Limit Analyte Added %Rec Limits Unit Benzene <0.00200 U 0.0990 0.08785 mg/Kg 89 70 - 130 10 35 Toluene 0.0990 0.08833 <0.00200 U mg/Kg 89 70 - 130 0 35 Ethylbenzene <0.00200 U 0.0990 0.09287 94 70 - 130 5 35 mg/Kg <0.00401 U 0.198 0.1989 70 - 130 35 m-Xylene & p-Xylene mg/Kg 100 9 0.0990 <0.00200 U 0.09869 70 - 130 o-Xylene mg/Kg 100 11

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

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

Lab Sample ID: MB 880-37189/1-A Client Sample ID: Method Blank M

Matrix: Solid							Prep Type:	Γotal/NA
Analysis Batch: 37192							Prep Batcl	n: 37189
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
0lin- D 0i		11				10/10/22 00:41	10/10/22 10:12	

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 08:41	10/18/22 10:43	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepai	red	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	10/18/22	08:41	10/18/22 10:43	1
o-Terphenyl	132	S1+	70 - 130	10/18/22	08:41	10/18/22 10:43	1

Lab Sample ID: LCS 880-37189/2-A

Matrix: Solid

Diesel Range Organics (Over

Matrix: Solid							Prep T	ype: Total/NA
Analysis Batch: 37192							Prep	Batch: 37189
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	917.8		mg/Kg		92	70 - 130	
(GRO)-C6-C10								

861.0

mg/Kg

C10-C28)

Eurofins Carlsbad

Client Sample ID: Lab Control Sample

70 - 130

Job ID: 890-3213-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

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

LCS LCS

Lab Sample ID: LCS 880-37189/2-A Client Sample ID: Lab Control Sample

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 96 70 - 130 o-Terphenyl 110 70 - 130

Lab Sample ID: LCSD 880-37189/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 899.3 90 70 - 1302 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 878.4 88 mg/Kg 70 - 1302 20 C10-C28)

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	113		70 - 130

Lab Sample ID: 880-20421-A-45-D MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Sample Sample MS MS Spike Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 999 1087 mg/Kg 107 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1026 mg/Kg 99 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 91 o-Terphenyl 90 70 - 130

Lab Sample ID: 880-20421-A-45-E MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Analysis Batch: 37192

Prep Type: Total/NA

Prep Batch: 37189

Sample Sample MSD MSD RPD Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics U 999 1182 <49.9 117 70 - 130 8 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U 999 1034 mg/Kg 100 70 - 130 20

70 - 130

C10-C28)

Surrogate

o-Terphenyl

1-Chlorooctane

MSD MSD %Recovery Qualifier Limits 91 70 - 130

89

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike

Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37169/1-A

Matrix: Solid

Analysis Batch: 37281

Client: Ensolum

MB MB

Analyte Result Qualifier RLUnit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 10/19/22 13:20

Lab Sample ID: LCS 880-37169/2-A

Matrix: Solid

Analysis Batch: 37281

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 253.7 mg/Kg 101 90 - 110

Lab Sample ID: LCSD 880-37169/3-A

Matrix: Solid

Analysis Batch: 37281

Spike LCSD LCSD RPD %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 254.7 mg/Kg 102 90 - 110

Lab Sample ID: 890-3212-A-1-B MS

Matrix: Solid

Analysis Batch: 37281

MS MS Sample Sample Spike %Rec Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride 2820 2490 5384 103 90 - 110 mg/Kg

Lab Sample ID: 890-3212-A-1-C MSD

Matrix: Solid

Analysis Batch: 37281

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 2820 2490 5392 mg/Kg 103 90 - 110

Lab Sample ID: 890-3220-A-3-F MS

Matrix: Solid

Analysis Batch: 37281

Sample Spike MS MS %Rec Sample Qualifier Added Analyte Result Result Qualifier Unit D %Rec Limits Chloride 669 251 904.6 mg/Kg 90 - 110

Lab Sample ID: 890-3220-A-3-G MSD

Matrix: Solid

Analysis Batch: 37281

MSD MSD %Rec RPD Sample Sample Spike Analyte Qualifier Added Result Qualifier Limits RPD Limit Result Unit %Rec Chloride 669 251 902.5 mg/Kg 93 90 - 110 20

QC Association Summary

 Client: Ensolum
 Job ID: 890-3213-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA

Analysis Batch: 37616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	8021B	37622
890-3213-2	PH01A	Total/NA	Solid	8021B	37622
890-3213-3	PH01B	Total/NA	Solid	8021B	37622
890-3213-4	PH01C	Total/NA	Solid	8021B	37622
MB 880-37622/5-A	Method Blank	Total/NA	Solid	8021B	37622
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	8021B	37622
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37622
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	8021B	37622
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37622

Prep Batch: 37622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	5035	
890-3213-2	PH01A	Total/NA	Solid	5035	
890-3213-3	PH01B	Total/NA	Solid	5035	
890-3213-4	PH01C	Total/NA	Solid	5035	
MB 880-37622/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	Total BTEX	
890-3213-2	PH01A	Total/NA	Solid	Total BTEX	
890-3213-3	PH01B	Total/NA	Solid	Total BTEX	
890-3213-4	PH01C	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 37189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	8015NM Prep	
890-3213-2	PH01A	Total/NA	Solid	8015NM Prep	
890-3213-3	PH01B	Total/NA	Solid	8015NM Prep	
890-3213-4	PH01C	Total/NA	Solid	8015NM Prep	
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	8015B NM	37189
890-3213-2	PH01A	Total/NA	Solid	8015B NM	37189
890-3213-3	PH01B	Total/NA	Solid	8015B NM	37189
890-3213-4	PH01C	Total/NA	Solid	8015B NM	37189
MB 880-37189/1-A	Method Blank	Total/NA	Solid	8015B NM	37189
LCS 880-37189/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37189

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QC Association Summary

 Client: Ensolum
 Job ID: 890-3213-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC Semi VOA (Continued)

Analysis Batch: 37192 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-37189/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37189
880-20421-A-45-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37189
880-20421-A-45-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37189

Analysis Batch: 37301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Total/NA	Solid	8015 NM	
890-3213-2	PH01A	Total/NA	Solid	8015 NM	
890-3213-3	PH01B	Total/NA	Solid	8015 NM	
890-3213-4	PH01C	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Soluble	Solid	DI Leach	
890-3213-2	PH01A	Soluble	Solid	DI Leach	
890-3213-3	PH01B	Soluble	Solid	DI Leach	
890-3213-4	PH01C	Soluble	Solid	DI Leach	
MB 880-37169/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3212-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3212-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3220-A-3-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3220-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3213-1	PH01	Soluble	Solid	300.0	37169
890-3213-2	PH01A	Soluble	Solid	300.0	37169
890-3213-3	PH01B	Soluble	Solid	300.0	37169
890-3213-4	PH01C	Soluble	Solid	300.0	37169
MB 880-37169/1-A	Method Blank	Soluble	Solid	300.0	37169
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	300.0	37169
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37169
890-3212-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	37169
890-3212-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37169
890-3220-A-3-F MS	Matrix Spike	Soluble	Solid	300.0	37169
890-3220-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37169

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Lab Chronicle

Client: Ensolum Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH01

Date Collected: 10/13/22 11:05 Date Received: 10/17/22 12:12 Lab Sample ID: 890-3213-1

Matrix: Solid

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 17:08	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37814	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37301	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 17:27	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	37281	10/19/22 13:59	CH	EET MID

Client Sample ID: PH01A Lab Sample ID: 890-3213-2 Date Collected: 10/13/22 11:15 Matrix: Solid

Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 17:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37814	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37301	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 17:48	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		10	50 mL	50 mL	37281	10/19/22 14:03	CH	EET MID

Client Sample ID: PH01B Lab Sample ID: 890-3213-3

Date Collected: 10/13/22 11:30 Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 17:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37814	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37301	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 18:09	SM	EET MIC
Soluble	Leach	DI Leach			5.04 g	50 mL	37169	10/17/22 15:39	KS	EET MIC
Soluble	Analysis	300.0		20	50 mL	50 mL	37281	10/19/22 14:18	CH	EET MID

Client Sample ID: PH01C Lab Sample ID: 890-3213-4

Date Collected: 10/13/22 13:15 Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 18:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37814	10/25/22 12:00	SM	EET MID

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Released to Imaging: 5/9/2023 1:49:46 PM

Matrix: Solid

Matrix: Solid

Lab Chronicle

Client: Ensolum Job ID: 890-3213-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: PH01C Lab Sample ID: 890-3213-4

Date Collected: 10/13/22 13:15 Matrix: Solid Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			37301	10/19/22 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37189	10/18/22 08:41	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37192	10/18/22 18:30	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37281	10/19/22 16:10	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
 Job ID: 890-3213-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this remort hu	t the leberatory is not cortific	and the contract of the contra	
the agency does not of	' '	it the laboratory is not certilit	ed by the governing authority. This list ma	ay include analytes to
0 ,	' '	Matrix	ed by the governing authority. This list ma	ay include analytes to
the agency does not of	fer certification.	,	, , ,	ay include analytes to

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Method Summary

 Client: Ensolum
 Job ID: 890-3213-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3213-1

SDG: 03E1558098

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3213-1	PH01	Solid	10/13/22 11:05	10/17/22 12:12	2'
890-3213-2	PH01A	Solid	10/13/22 11:15	10/17/22 12:12	4'
890-3213-3	PH01B	Solid	10/13/22 11:30	10/17/22 12:12	7'
890-3213-4	PH01C	Solid	10/13/22 13:15	10/17/22 12:12	11'

Work Order No:

Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334

Environment Testing

💸 eurofins

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Chain of Custody

levrsed Date 08/25/2020 Rev 2020.

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Superfund DI Water: H₂O nAPP2219649599 LevelIV HNO 3: HN MeOH: Me NaOH: Na Cost Center NaOH+Ascorbic Acid: SAPC Sample Comments Preservative Codes Date/Time でなるのかは 14060100 Zn Acetate+NaOH: Zn PST/UST TRRP RRC Na 25 20 3: Na 50 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Tl Sn U V Zn Other: NAHSO 4: NABIS Hg: 1631 / 245.1 / 7470 / 7471 UST/PST | PRP | Brownfields | H3PO 4: HP None: NO H2504:H2 Cool: Cool HCL: HC Work Order Comments ADaPT Received by: (Signature) www.xenco.com Reporting: Level II | Level III EDO State of Project: FEUROFITS 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 Deliverables: TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U olice: 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 fearings 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 Program: 890-3213 Chain of Custody Relinquished by: (Signature) ANALYSIS REQUEST Tarishad, NM 88220 4 samet Green Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 Energy EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 3104 E Greene bbeiill@ensolum com 0 lendes 0 XTO EX BL Date/Time 66/21/01 PH _) Cont Pres. Code # of Рататетет Bill to: (if different) Company Name: Comp Grab/ 1 Dage O City, State ZIP: TAT starts the day received by the lab, if received by 4:30pm Kes No Rush Address: Depth 4 r Received by: (Siggature) Email: 五五五 1130 315 98220 Routine 105 32, 3804.2, 703. 884.) Que Date: Corrected Temperature: 115 Wet Ice: Sampled Temperature Reading: Time Samonda. Correction Factor: Thermometer ID: Parks 989 854 0852 10/13/2 Merediti Pobrts Date Sampled 2 Car Circle Method(s) and Metal(s) to be analyzed MN bedsing 03E1558098 Ben Belill 1891 1 Matrix Xenco Ensolum Sizz Nat Temp Blank: (200.8 / 6020: (Wes) No Yes No, Yes No 700 Relinquished by: (Signature) Sample Identification Samples Received Intact: PHOIB PHOIA Total 200.7 / 6010 PHOL Sample Custody Seals: Cooler Custody Seals: PHOI SAMPLE RECEIPT Total Containers: Project Manager: Company Name: Project Number: Project Location: Sampler's Name: City, State ZIP: Address: PO #: Phone

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3213-1

SDG Number: 03E1558098

Login Number: 3213 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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Login Sample Receipt Checklist

Job Number: 890-3213-1 SDG Number: 03E1558098

Login Number: 3213
List Source: Eurofins Midland
List Number: 2
List Creation: 10/18/22 10:45 AM

Creator: Rodriguez, Leticia

Client: Ensolum

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	N/A	

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<6mm (1/4").





Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3214-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

Authorized for release by: 10/25/2022 11:13:41 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Have a Question?

EOL

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Review your project results through

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

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

Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3214-1
SDG: 03E1558098

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Definitions/Glossary

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Qualifiers

GC VOA

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

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.

Eisted 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

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

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Case Narrative

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3214-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3214-1

Receipt

The samples were received on 10/17/2022 12:12 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6° C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-3214-1) and SW02 (890-3214-2).

GC VOA

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.

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4.0

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Matrix: Solid

Lab Sample ID: 890-3214-1

Job ID: 890-3214-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: SW01

Date Collected: 10/14/22 11:00 Date Received: 10/17/22 12:12

Sample Depth: 0-2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		10/24/22 09:35	10/24/22 18:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130			10/24/22 09:35	10/24/22 18:30	1
1,4-Difluorobenzene (Surr)	87		70 - 130			10/24/22 09:35	10/24/22 18:30	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			10/25/22 12:00	1
Method: SW846 8015 NM - Diese	al Range Organ	ics (DRO) ((GC)					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	54.2	<u> </u>	49.8	mg/Kg		<u> </u>	10/19/22 09:39	1
Method: SW846 8015B NM - Dies	col Pango Orga	nice (DPO)	(GC)					
Analyte	sei italiye Olya	ilica (Dito)						
				Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier	RL	Unit ma/Ka	<u>D</u>	Prepared 10/18/22 10:12	Analyzed 10/18/22 13:37	Dil Fac
		Qualifier		Unit mg/Kg	<u>D</u>	Prepared 10/18/22 10:12	Analyzed 10/18/22 13:37	
Gasoline Range Organics	Result	Qualifier	RL		<u>D</u>			1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8 54.2	Qualifier U	RL 49.8 49.8	mg/Kg	<u>D</u>	10/18/22 10:12	10/18/22 13:37	1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8	Qualifier U	49.8	mg/Kg	<u>D</u>	10/18/22 10:12	10/18/22 13:37	1
Gasoline Range Organics (GRO)-C6-C10	Result <49.8 54.2	Qualifier U	49.8 49.8 49.8 <i>Limits</i>	mg/Kg	<u>D</u>	10/18/22 10:12	10/18/22 13:37	
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.8 54.2 <49.8	Qualifier U	RL 49.8 49.8 49.8	mg/Kg	<u> </u>	10/18/22 10:12 10/18/22 10:12 10/18/22 10:12	10/18/22 13:37 10/18/22 13:37 10/18/22 13:37	1 1 1 Dil Fac
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result <49.8 54.2 <49.8 %Recovery	Qualifier U	49.8 49.8 49.8 <i>Limits</i>	mg/Kg	<u>D</u>	10/18/22 10:12 10/18/22 10:12 10/18/22 10:12 Prepared	10/18/22 13:37 10/18/22 13:37 10/18/22 13:37 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result <49.8 54.2 <49.8	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg	<u> </u>	10/18/22 10:12 10/18/22 10:12 10/18/22 10:12 Prepared 10/18/22 10:12	10/18/22 13:37 10/18/22 13:37 10/18/22 13:37 Analyzed 10/18/22 13:37	1
Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	Result <49.8 54.2 <49.8	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	10/18/22 10:12 10/18/22 10:12 10/18/22 10:12 Prepared 10/18/22 10:12	10/18/22 13:37 10/18/22 13:37 10/18/22 13:37 Analyzed 10/18/22 13:37	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Client Sample ID: SW02

Date Collected: 10/14/22 13:50 Date Received: 10/17/22 12:12

Sample Depth: 0-2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
Toluene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		10/24/22 09:35	10/24/22 18:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			10/24/22 09:35	10/24/22 18:50	1

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Lab Sample ID: 890-3214-2

Matrix: Solid

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Matrix: Solid

Lab Sample ID: 890-3214-2

Client Sample Results

Client: Ensolum Job ID: 890-3214-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: SW02

Date Collected: 10/14/22 13:50 Date Received: 10/17/22 12:12

Analyte

Chloride

Method: SW846 8021B - Volatile	Organic Comp	ounds (GC)	(Continued)					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	83		70 - 130			10/24/22 09:35	10/24/22 18:50	1
Method: TAL SOP Total BTEX - T	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			10/25/22 12:00	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	50.5		49.9	mg/Kg			10/19/22 09:39	1
Method: SW846 8015B NM - Dies	ol Pango Orga	nice (DPO)	(GC)					
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		10/18/22 10:12	10/18/22 13:58	1
(GRO)-C6-C10			40.0			40/40/00 40:40	40/40/00 40:50	1
Diesel Range Organics (Over C10-C28)	50.5		49.9	mg/Kg		10/18/22 10:12	10/18/22 13:58	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/18/22 10:12	10/18/22 13:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	103		70 - 130			10/18/22 10:12	10/18/22 13:58	1
1-Chioroociane			70 - 130			10/18/22 10:12	10/18/22 13:58	

24.8

Unit

mg/Kg

Prepared

Analyzed

10/19/22 14:33

Result Qualifier

277

Surrogate Summary

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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)	
890-3211-A-3-E MS	Matrix Spike	105	107	
890-3211-A-3-F MSD	Matrix Spike Duplicate	122	90	
890-3214-1	SW01	117	87	
890-3214-2	SW02	112	83	
LCS 880-37622/1-A	Lab Control Sample	100	103	
LCSD 880-37622/2-A	Lab Control Sample Dup	117	95	
MB 880-37622/5-A	Method Blank	87	93	

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

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

Matrix: Solid Prep Type: Total/NA

		1001	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3214-1	SW01	109	109
890-3214-2	SW02	103	100
890-3220-A-1-D MS	Matrix Spike	102	93
890-3220-A-1-E MSD	Matrix Spike Duplicate	115	98
LCS 880-37214/2-A	Lab Control Sample	83	84
LCSD 880-37214/3-A	Lab Control Sample Dup	85	86
MB 880-37214/1-A	Method Blank	119	118

Surrogate Legend

1CO = 1-Chlorooctane

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OTPH = o-Terphenyl

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QC Sample Results

Client: Ensolum Job ID: 890-3214-1 SDG: 03E1558098 Project/Site: JRU 163H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-37622/5-A

Matrix: Solid Analysis Batch: 37616 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37622

ı		MB	MB						
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
	Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
	Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
I	m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
	o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 09:35	10/24/22 10:58	1
	Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/22 09:35	10/24/22 10:58	1

MB MB

MD MD

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87	70 - 130	10/24/22 09:35	10/24/22 10:58	1
1,4-Difluorobenzene (Surr)	93	70 - 130	10/24/22 09:35	10/24/22 10:58	1

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 880-37622/1-A

Matrix: Solid

Analysis Batch: 37616

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09878		mg/Kg		99	70 - 130	
Toluene	0.100	0.09273		mg/Kg		93	70 - 130	
Ethylbenzene	0.100	0.09307		mg/Kg		93	70 - 130	
m-Xylene & p-Xylene	0.200	0.1928		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09522		mg/Kg		95	70 - 130	

LCS LCS

Surrogate	%Recovery Qual	ifier Limits
4-Bromofluorobenzene (Surr)	100	70 - 130
1,4-Difluorobenzene (Surr)	103	70 - 130

Lab Sample ID: LCSD 880-37622/2-A

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37622

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1046		mg/Kg		105	70 - 130	6	35
Toluene	0.100	0.1043		mg/Kg		104	70 - 130	12	35
Ethylbenzene	0.100	0.1118		mg/Kg		112	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.2373		mg/Kg		119	70 - 130	21	35
o-Xylene	0.100	0.1176		mg/Kg		118	70 - 130	21	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	117	70 - 130
1,4-Difluorobenzene (Surr)	95	70 - 130

Lab Sample ID: 890-3211-A-3-E MS

Matrix: Solid

Analysis Batch: 37616

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

Prep Batch: 37622

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00200	U	0.0998	0.09725		mg/Kg		97	70 - 130	
Toluene	<0.00200	U	0.0998	0.08867		mg/Kg		89	70 - 130	

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QC Sample Results

Client: Ensolum Job ID: 890-3214-1 Project/Site: JRU 163H SDG: 03E1558098

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

Lab Sample ID: 890-3211-A-3-E MS

Lab Sample ID: 890-3211-A-3-F MSD

Matrix: Solid

Matrix: Solid

Analysis Batch: 37616

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 37622

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00200	U	0.0998	0.08819		mg/Kg		88	70 - 130	
m-Xylene & p-Xylene	<0.00401	U	0.200	0.1815		mg/Kg		91	70 - 130	
o-Xylene	<0.00200	U	0.0998	0.08871		mg/Kg		89	70 - 130	

MS MS

Surrogate	%Recovery Qualif	ier Limits
4-Bromofluorobenzene (Surr)	105	70 - 130
1,4-Difluorobenzene (Surr)	107	70 - 130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 37622

Analysis Batch: 37616 Sample Sample Spike MSD MSD RPD Result Qualifier Result Qualifier RPD Limit Analyte Added Unit %Rec Limits 0.0990 Benzene <0.00200 U 0.08785 mg/Kg 89 70 - 130 10 35 Toluene 0.08833 <0.00200 U 0.0990 mg/Kg 89 70 - 130 0 35 Ethylbenzene <0.00200 U 0.0990 0.09287 mg/Kg 94 70 - 130 5 35 <0.00401 U 0.198 0.1989 70 - 130 35 m-Xylene & p-Xylene mg/Kg 100 9 0.0990 <0.00200 U 0.09869 70 - 130 11 o-Xylene mg/Kg 100

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	122		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

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

Lab Sample ID: MB 880-37214/1-A

Matrix: Solid

Analysis Batch: 37196

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37214

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/18/22 10:12	10/18/22 11:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/18/22 10:12	10/18/22 11:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/18/22 10:12	10/18/22 11:15	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	119		70 - 130	10/18/22 10:12	10/18/22 11:15	1
o-Terphenyl	118		70 - 130	10/18/22 10:12	10/18/22 11:15	1

Lab Sample ID: LCS 880-37214/2-A

Matrix: Solid

Analysis Batch: 37196

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37214

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1108		mg/Kg		111	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	744.4		mg/Kg		74	70 - 130	
C10-C28)								

C10-C28)

QC Sample Results

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

Lab Sample ID: LCS 880-37214/2-A Client Sample ID: Lab Control Sample

Matrix: Solid Prep Type: Total/NA
Analysis Batch: 37196 Prep Batch: 37214

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 83
 70 - 130

 o-Terphenyl
 84
 70 - 130

Lab Sample ID: LCSD 880-37214/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid Prep Type: Total/NA
Analysis Batch: 37196 Prep Batch: 37214

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit 1000 1146 115 70 - 1303 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 783.3 mg/Kg 78 70 - 1305 20

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 85
 70 - 130

 o-Terphenyl
 86
 70 - 130

Lab Sample ID: 890-3220-A-1-D MS

Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Total/NA

Analysis Batch: 37196

Sample Sample Spike MS MS %Rec %Rec

Analyte Added Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.8 U 998 1017 mg/Kg 99 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.8 U 998 989.7 mg/Kg 97 70 - 130

C10-C28)

MS MS

Surrogate %Recovery Qualifier Limits

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 102
 70 - 130

 o-Terphenyl
 93
 70 - 130

Lab Sample ID: 890-3220-A-1-E MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Prep Type: Total/NA

Prep Type: 77444

Analysis Batch: 37196 Prep Batch: 37214

	Sample	Sample	эріке	MOD	MOD				%Rec		KPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline Range Organics	<49.8	U	998	1163		mg/Kg		114	70 - 130	13	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<49.8	U	998	1058		mg/Kg		104	70 - 130	7	20	
C10-C28)												

 MSD MSD

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 115
 70 - 130

 o-Terphenyl
 98
 70 - 130

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3

-

0

10

12

13

risbac

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Client Sample ID: Matrix Spike Duplicate

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike

QC Sample Results

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37169/1-A

Matrix: Solid

Analysis Batch: 37281

MB MB

 Analyte
 Result Chloride
 Qualifier
 RL Unit
 Unit
 D mg/Kg
 Prepared Prepared
 Analyzed 10/19/22 13:20
 Dil Fac 10/19/22 13:20

Lab Sample ID: LCS 880-37169/2-A

Matrix: Solid

Analysis Batch: 37281

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 253.7 mg/Kg 101 90 - 110

Lab Sample ID: LCSD 880-37169/3-A

Matrix: Solid

Analysis Batch: 37281

Spike LCSD LCSD RPD %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 254.7 mg/Kg 102 90 - 110

Lab Sample ID: 890-3212-A-1-B MS

Matrix: Solid

Analysis Batch: 37281

MS MS Sample Sample Spike %Rec Added Analyte Result Qualifier Result Qualifier Unit %Rec Limits Chloride 2820 2490 5384 103 90 - 110 mg/Kg

Lab Sample ID: 890-3212-A-1-C MSD

Matrix: Solid

Analysis Batch: 37281

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 2820 2490 5392 mg/Kg 103 90 - 110

Lab Sample ID: 890-3220-A-3-F MS

Matrix: Solid

Analysis Batch: 37281

Sample Spike MS MS %Rec Sample Qualifier Added Analyte Result Result Qualifier Unit D %Rec Limits Chloride 669 251 904.6 mg/Kg 90 - 110

Lab Sample ID: 890-3220-A-3-G MSD

Matrix: Solid

Analysis Batch: 37281

MSD MSD %Rec RPD Sample Sample Spike Analyte Qualifier Added Result Qualifier Limits RPD Limit Result Unit %Rec Chloride 669 251 902.5 mg/Kg 93 90 - 110 20

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QC Association Summary

Client: Ensolum Job ID: 890-3214-1 Project/Site: JRU 163H SDG: 03E1558098

GC VOA

Analysis Batch: 37616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	8021B	37622
890-3214-2	SW02	Total/NA	Solid	8021B	37622
MB 880-37622/5-A	Method Blank	Total/NA	Solid	8021B	37622
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	8021B	37622
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37622
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	8021B	37622
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37622

Prep Batch: 37622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	5035	
890-3214-2	SW02	Total/NA	Solid	5035	
MB 880-37622/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37622/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37622/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3211-A-3-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3211-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	Total BTEX	
890-3214-2	SW02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	8015B NM	37214
890-3214-2	SW02	Total/NA	Solid	8015B NM	37214
MB 880-37214/1-A	Method Blank	Total/NA	Solid	8015B NM	37214
LCS 880-37214/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37214
LCSD 880-37214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37214
890-3220-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	37214
890-3220-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	37214

Prep Batch: 37214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	8015NM Prep	
890-3214-2	SW02	Total/NA	Solid	8015NM Prep	
MB 880-37214/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37214/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37214/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3220-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3220-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Total/NA	Solid	8015 NM	
890-3214-2	SW02	Total/NA	Solid	8015 NM	

QC Association Summary

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

HPLC/IC

Leach Batch: 37169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Soluble	Solid	DI Leach	
890-3214-2	SW02	Soluble	Solid	DI Leach	
MB 880-37169/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3212-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3212-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3220-A-3-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3220-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 37281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3214-1	SW01	Soluble	Solid	300.0	37169
890-3214-2	SW02	Soluble	Solid	300.0	37169
MB 880-37169/1-A	Method Blank	Soluble	Solid	300.0	37169
LCS 880-37169/2-A	Lab Control Sample	Soluble	Solid	300.0	37169
LCSD 880-37169/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37169
890-3212-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	37169
890-3212-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37169
890-3220-A-3-F MS	Matrix Spike	Soluble	Solid	300.0	37169
890-3220-A-3-G MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37169

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Lab Chronicle

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: SW01

Lab Sample ID: 890-3214-1

Matrix: Solid

Date Collected: 10/14/22 11:00 Date Received: 10/17/22 12:12

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	37622	10/24/22 09:35	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37616	10/24/22 18:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37815	10/25/22 12:00	SM	EET MID
Total/NA	Analysis	8015 NM		1			37277	10/19/22 09:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37214	10/18/22 10:12	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37196	10/18/22 13:37	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37169	10/17/22 15:39	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37281	10/19/22 16:15	CH	EET MID

Client Sample ID: SW02 Lab Sample ID: 890-3214-2

Date Collected: 10/14/22 13:50 Matrix: Solid

Date Received: 10/17/22 12:12

Dil Initial Final Batch Batch Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab 5035 37622 Total/NA Prep 4.97 g 5 mL 10/24/22 09:35 MNR EET MID Total/NA 8021B 5 mL **EET MID** Analysis 1 5 mL 37616 10/24/22 18:50 MNR Total/NA Total BTEX 37815 10/25/22 12:00 Analysis 1 SM **EET MID** Total/NA Analysis 8015 NM 37277 10/19/22 09:39 SM **EET MID** 37214 10/18/22 10:12 Total/NA Prep 8015NM Prep 10.02 g 10 mL AM EET MID Total/NA Analysis 8015B NM 1 uL 1 uL 37196 10/18/22 13:58 SM **EET MID** 10/17/22 15:39 Soluble Leach DI Leach 5.04 g 50 mL 37169 KS **EET MID** Soluble Analysis 300.0 5 50 mL 50 mL 37281 10/19/22 14:33 СН **EET MID**

Laboratory References:

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

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Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	NE	ELAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, bu	it the laboratory is not certific	ed by the governing authority. This list ma	av include analytes for
the agency does not of	fer certification.	•	, , ,	·, ·····
the agency does not of Analysis Method	fer certification . Prep Method	Matrix	Analyte	,
0 ,		Matrix Solid	, , ,	

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Method Summary

 Client: Ensolum
 Job ID: 890-3214-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory

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: JRU 163H

Job ID: 890-3214-1

SDG: 03E1558098

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th	

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3214-1	SW01	Solid	10/14/22 11:00	10/17/22 12:12	0-2'
890-3214-2	SW02	Solid	10/14/22 13:50	10/17/22 12:12	0-2'

Revised Date 08/25/2020 Rev. 2020.

Date/Time

Received by: (Signature)

Chain of Custody

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

Environment Testing Xenco

. eurofins

Work Order No:

Company Name						
	ス	Company Name:	XTO	Energy	Program: UST/PST	Brownfields ☐ RRC ☐ Superfund ☐
Address: 3122 Nat	3122 Nati Parks Huy	Address:	3,04 E (3104 F Greene St	State of Project:	
City, State ZIP: Carl Shack	Carlsbad, NM 88220	City, State ZIP:	Carlsbad	Carlsbad, NM, 8822c	Reporting: Level III PST/UST TRRP Level IV	PST/UST TRRP Level IV
Phone: 989-854-0852	4.0852 Email:		bbeilingensoimmicom	, con,	Deliverables: EDD AD	ADaPT Other:
Project Name: ORX 16.3t		Turn Around		ANALYSIS REQUEST	ST	Preservative Codes
oer: 0	PROUT	Rush Code				None: NO DI Water: H ₂ O
	32.38042,703.88424bue Date:					Cool: Cool MeOH: Me
	2 berts TAT starts the	TAT starts the day received by				HCL: HC HNO 3: HN
		the lab, if received by 4:30pm		_		H ₂ SO ₄ : H ₂ NaOH: Na
SAMPLE RECEIPT Temp Blank:	(es) No Wet Ice:	(Yes) No				H ₃ PO ₄; HP
Samples Received Intact: (Fes.) No	Thermometer ID:	6				NaHSO 4: NABIS
*	Correction Factor:	0	d,			Na ₂ S ₂ O ₃ : Na ₅ O ₃
Sample Custody Seals: Yes No No	Temperature Reading:	3	ń			Zn Acetate+NaOH: Zn
Total Containers:	Corrected Temperature:	3.8	H.0	890-3214 Chain of Custody	ody.	NaOH+Ascorbic Acid: SAPC
Sample Identification Ma	Matrix Date Time Sampled	Depth Grab/ # of	8F Ch.			Sample Comments
5 IOMS	S 10/14/22 1100	0-2,	X			incident #
7		0-2,0	X X X			nAPP1219149599
			AHA	2		
			1			Cast Center:
		\				7140601001
		1				
	1					
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submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotlated rice: 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 stapfard terms and conditions 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 Relinquished by: (Signature) Date/Time rofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample Received by: (Signature) Relinquished by: (Signature)

10/17/30

10/25/2022

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3214-1 SDG Number: 03E1558098

Login Number: 3214 List Source: Eurofins Carlsbad

List Number: 1 Creator: Stutzman, Amanda

Question **Answer** Comment The cooler's custody seal, if present, is intact. True Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or True tampered with. Samples were received on ice. True True Cooler Temperature is acceptable. 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 True HTs) 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 N/A Sample Preservation Verified. There is sufficient vol. for all requested analyses, incl. any requested True MS/MSDs Containers requiring zero headspace have no headspace or bubble is N/A

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<6mm (1/4").

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-3214-1 SDG Number: 03E1558098

> List Source: Eurofins Midland List Creation: 10/18/22 10:45 AM

List Number: 2 Creator: Rodriguez, Leticia

Login Number: 3214

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

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Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 890-3237-1

Laboratory Sample Delivery Group: 03E1558098

Client Project/Site: JRU 163H

For:

🛟 eurofins

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

SKRAMER

Authorized for release by 10/28/2022 10:52:59 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

Ask—The Expert

EOL

.....LINKS

Review your project results through

Visit us at:

www.eurofinsus.com/Env
Released to Imaging: 5/9/2023 1:49:46 PM

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

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

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Client: Ensolum
Project/Site: JRU 163H
Laboratory Job ID: 890-3237-1
SDG: 03E1558098

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Definitions/Glossary

Job ID: 890-3237-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Qualifiers

GC VOA

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

U

GC Semi VOA

Qualifier Description

Qualifier

Indicates the analyte was analyzed for but not detected.

HPLC/IC

U

Qualifier **Qualifier Description**

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

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

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)

Reporting Limit or Requested Limit (Radiochemistry) RL

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
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Job ID: 890-3237-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3237-1

Receipt

The samples were received on 10/20/2022 9:38 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6° C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3237-1), FS02 (890-3237-2), FS03 (890-3237-3) and FS04 (890-3237-4).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: (LCS 880-37693/1-A) and (LCSD 880-37693/2-A). Evidence of matrix interferences is not obvious.

Method 8021B: Surrogate recovery for the following samples were outside control limits: (890-3234-A-9-D MS) and (890-3234-A-9-E 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: FS01 (890-3237-1), FS02 (890-3237-2), FS03 (890-3237-3) and FS04 (890-3237-4). 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

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

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-37510 and analytical batch 880-37597 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.

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Job ID: 890-3237-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: FS01 Lab Sample ID: 890-3237-1 Date Collected: 10/17/22 13:10

Matrix: Solid Date Received: 10/20/22 09:38

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/24/22 17:00	10/27/22 02:12	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	145	S1+	70 - 130			10/24/22 17:00	10/27/22 02:12	1
1,4-Difluorobenzene (Surr)	99		70 - 130			10/24/22 17:00	10/27/22 02:12	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			10/27/22 10:05	1
- Method: SW846 8015 NM - Diese	ol Pango Organ	ice (DPO) ((ec)					
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	133		49.8	mg/Kg			10/24/22 12:22	1
				99				1
Method: SW846 8015B NM - Dies								1
	sel Range Orga	nics (DRO)	(GC)					1
Analyte		nics (DRO) Qualifier	(GC)	Unit	D	Prepared	Analyzed	Dil Fac
Analyte		Qualifier		<mark>Unit</mark> mg/Kg	<u>D</u>	Prepared 10/21/22 13:46		
Analyte Gasoline Range Organics (GRO)-C6-C10	Result	Qualifier	RL 49.8	mg/Kg	<u>D</u>	10/21/22 13:46	Analyzed 10/21/22 21:22	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result	Qualifier	RL		<u>D</u>	<u>.</u>	Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8	Qualifier U	RL 49.8 49.8	mg/Kg	<u>D</u>	10/21/22 13:46 10/21/22 13:46	Analyzed 10/21/22 21:22 10/21/22 21:22	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	Result <49.8	Qualifier U	RL 49.8	mg/Kg	<u>D</u>	10/21/22 13:46	Analyzed 10/21/22 21:22	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	Result <49.8	Qualifier U	RL 49.8 49.8	mg/Kg	<u>D</u>	10/21/22 13:46 10/21/22 13:46	Analyzed 10/21/22 21:22 10/21/22 21:22	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	Result <49.8 133 <49.8	Qualifier U	RL 49.8 49.8 49.8	mg/Kg	<u> </u>	10/21/22 13:46 10/21/22 13:46 10/21/22 13:46	Analyzed 10/21/22 21:22 10/21/22 21:22 10/21/22 21:22	Dil Fac 1 1
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane	Result <49.8 133 <49.8 %Recovery	Qualifier U	49.8 49.8 49.8 <i>Limits</i>	mg/Kg	<u>D</u>	10/21/22 13:46 10/21/22 13:46 10/21/22 13:46 Prepared	Analyzed 10/21/22 21:22 10/21/22 21:22 10/21/22 21:22 Analyzed	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate 1-Chlorooctane o-Terphenyl	Result <49.8 133 <49.8 %Recovery 107 123	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	10/21/22 13:46 10/21/22 13:46 10/21/22 13:46 Prepared 10/21/22 13:46	Analyzed 10/21/22 21:22 10/21/22 21:22 10/21/22 21:22 Analyzed 10/21/22 21:22	Dil Fac
Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36) Surrogate	Result	Qualifier U Qualifier	RL 49.8 49.8 49.8 Limits 70 - 130 70 - 130	mg/Kg	<u>D</u>	10/21/22 13:46 10/21/22 13:46 10/21/22 13:46 Prepared 10/21/22 13:46	Analyzed 10/21/22 21:22 10/21/22 21:22 10/21/22 21:22 Analyzed 10/21/22 21:22	Dil Fac

Client Sample ID: FS02 Lab Sample ID: 890-3237-2

Date Collected: 10/17/22 13:20 Date Received: 10/20/22 09:38

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/27/22 02:37	1
Toluene	0.00272		0.00200	mg/Kg		10/24/22 17:00	10/27/22 02:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/27/22 02:37	1
m-Xylene & p-Xylene	0.0625		0.00402	mg/Kg		10/27/22 09:43	10/27/22 20:27	1
o-Xylene	0.312		0.00200	mg/Kg		10/24/22 17:00	10/27/22 02:37	1
Xylenes, Total	0.546		0.00401	mg/Kg		10/24/22 17:00	10/27/22 02:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	273	S1+	70 - 130			10/24/22 17:00	10/27/22 02:37	

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Matrix: Solid

Job ID: 890-3237-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: FS02 Lab Sample ID: 890-3237-2 Date Collected: 10/17/22 13:20

Matrix: Solid

Sample Depth: 2'

Date Received: 10/20/22 09:38

Method: SW846 8021B - Vola	tile Organic Compounds (GC)	(Continued)			
Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fa
1 1 Different bearing (Occur)		70 100	10/01/00 17 00	10/07/00 00 07	

Fac 1,4-Difluorobenzene (Surr) 70 - 130 10/24/22 17:00 10/27/22 02:37

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte Result Qualifier RL Unit D Analyzed Dil Fac Prepared 0.00402 10/27/22 10:05

Total BTEX 0.377 mg/Kg

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC) Result Qualifier RL Unit D Prepared Analyzed Dil Fac

Total TPH 493 49.9 mg/Kg 10/24/22 12:22

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

Result Qualifier D Analyte RL Unit Prepared Analyzed Dil Fac 49.9 10/21/22 13:46 10/21/22 22:27 **Gasoline Range Organics** 53.1 mg/Kg (GRO)-C6-C10 **Diesel Range Organics (Over** 49.9 mg/Kg 10/21/22 13:46 10/21/22 22:27 389 C10-C28) **Oll Range Organics (Over** 51.3 49.9 mg/Kg 10/21/22 13:46 10/21/22 22:27

C28-C36)

Qualifier Limits Prepared Analyzed Dil Fac Surrogate %Recovery 10/21/22 13:46 1-Chlorooctane 92 70 - 130 10/21/22 22:27

70 - 130 o-Terphenyl 110 10/21/22 13:46 10/21/22 22:27

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Result Qualifier Analyte RL Unit D Prepared Analyzed Dil Fac Chloride 25.1 10/23/22 17:35 168 mg/Kg

Client Sample ID: FS03 Lab Sample ID: 890-3237-3 **Matrix: Solid**

Date Collected: 10/17/22 13:30

Date Received: 10/20/22 09:38

Sample Depth: 2'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 03:02	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 03:02	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/24/22 17:00	10/27/22 03:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/24/22 17:00	10/27/22 03:02	1
o-Xylene	0.0416		0.00199	mg/Kg		10/24/22 17:00	10/27/22 03:02	1
Xylenes, Total	0.0416		0.00398	mg/Kg		10/24/22 17:00	10/27/22 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	112		70 - 130	10/24/22 17:00	10/27/22 03:02	1
1,4-Difluorobenzene (Surr)	158	S1+	70 - 130	10/24/22 17:00	10/27/22 03:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Result Qualifier Analyte RL Unit D Prepared Analyzed Dil Fac **Total BTEX** 0.00398 10/27/22 10:05 0.0416 mg/Kg

Job ID: 890-3237-1

Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: FS03 Lab Sample ID: 890-3237-3 Matrix: Solid

Date Collected: 10/17/22 13:30 Date Received: 10/20/22 09:38

Sample Depth: 2'

Method: SW846 8015 NM - Diesel	Range Organics (DRO) (G	iC)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	70.0	49.8	mg/Kg			10/24/22 12:22	1
Method: SW846 8015B NM - Diese	I Range Organics (DRO)	(GC)					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		10/21/22 13:46	10/21/22 22:48	1
Diesel Range Organics (Over C10-C28)	70.0		49.8	mg/Kg		10/21/22 13:46	10/21/22 22:48	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		10/21/22 13:46	10/21/22 22:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

- Carrogato	,				, . ,	
1-Chlorooctane	81		70 - 130	10/21/22 13:46	10/21/22 22:48	1
o-Terphenyl	96		70 - 130	10/21/22 13:46	10/21/22 22:48	1
_						

Method: MCAVVV 300.0	- Anions, ion Chromato	grapny - So	lubie					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64.8		5.01	mg/Kg			10/24/22 13:28	1

Client Sample ID: FS04 Lab Sample ID: 890-3237-4

Date Collected: 10/17/22 13:40 Date Received: 10/20/22 09:38

Sample Depth: 2'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
Toluene	<0.00199	U	0.00199	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		10/25/22 17:00	10/27/22 03:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	138	S1+	70 - 130			10/25/22 17:00	10/27/22 03:28	1
1,4-Difluorobenzene (Surr)	97		70 - 130			10/25/22 17:00	10/27/22 03:28	1

Method: TAL SOP Total BTEX - Total BTEX Calculation Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Total BTEX	<0.00398	U	0.00398	mg/Kg			10/27/22 10:05	1

Method: SW846 8015 NM - Diesel I	Range Organics (DRO) (GC	()					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9 U	49.9	ma/Ka			10/24/22 12:22	

Method: SW846 8015B NM - Diese	l Range Orga	nics (DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		10/21/22 13:46	10/21/22 23:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		10/21/22 13:46	10/21/22 23:09	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		10/21/22 13:46	10/21/22 23:09	1

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Matrix: Solid

Client Sample Results

Client: Ensolum Job ID: 890-3237-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: FS04

Lab Sample ID: 890-3237-4 Date Collected: 10/17/22 13:40 Matrix: Solid

Sample Depth: 2'

Date Received: 10/20/22 09:38

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	79		70 - 130	10/21/22 13:46	10/21/22 23:09	1
o-Terphenyl	95		70 - 130	10/21/22 13:46	10/21/22 23:09	1

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble										
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	750		24.9	mg/Kg			10/23/22 17:54	5		

Surrogate Summary

Client: Ensolum Job ID: 890-3237-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-3234-A-9-D MS	Matrix Spike	134 S1+	92	
890-3234-A-9-E MSD	Matrix Spike Duplicate	132 S1+	101	
890-3237-1	FS01	145 S1+	99	
890-3237-2	FS02	273 S1+	94	
890-3237-3	FS03	112	158 S1+	
890-3237-4	FS04	138 S1+	97	
890-3252-A-2-B MS	Matrix Spike	114	101	
890-3252-A-2-C MSD	Matrix Spike Duplicate	125	93	
LCS 880-37686/1-A	Lab Control Sample	111	98	
LCS 880-37693/1-A	Lab Control Sample	143 S1+	98	
LCS 880-37987/1-A	Lab Control Sample	96	96	
LCSD 880-37686/2-A	Lab Control Sample Dup	111	94	
LCSD 880-37693/2-A	Lab Control Sample Dup	136 S1+	99	
LCSD 880-37987/2-A	Lab Control Sample Dup	104	101	
MB 880-37693/5-A	Method Blank	85	87	
MB 880-37850/8	Method Blank	83	96	
MB 880-37987/5-A	Method Blank	111	106	

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)	
890-3237-1	FS01	107	123	
890-3237-1 MS	FS01	84	91	
890-3237-1 MSD	FS01	83	89	
890-3237-2	FS02	92	110	
890-3237-3	FS03	81	96	
890-3237-4	FS04	79	95	
LCS 880-37501/2-A	Lab Control Sample	97	120	
LCSD 880-37501/3-A	Lab Control Sample Dup	96	116	
MB 880-37501/1-A	Method Blank	90	108	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Job ID: 890-3237-1 Client: Ensolum Project/Site: JRU 163H SDG: 03E1558098

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: LCS 880-37686/1-A

Matrix: Solid Analysis Batch: 37962 **Client Sample ID: Lab Control Sample**

Prep Type: Total/NA Prep Batch: 37686

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.08480 mg/Kg 85 70 - 130 Toluene 0.100 0.09591 mg/Kg 96 70 - 130 Ethylbenzene 0.100 0.08819 88 70 - 130 mg/Kg m-Xylene & p-Xylene

0.200 0.1857 mg/Kg 93 70 - 130 0.100 0.1003 mg/Kg 100 70 - 130

LCS LCS %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 70 - 130 111 1,4-Difluorobenzene (Surr) 98 70 - 130

Lab Sample ID: LCSD 880-37686/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

o-Xylene

Analysis Batch: 37962

Prep Type: Total/NA

Prep Batch: 37686

LCSD LCSD RPD Spike %Rec Result Qualifier Limit Analyte Added Unit %Rec Limits RPD Benzene 0.100 0.09111 mg/Kg 91 70 - 130 7 35 Toluene 0.100 0.1067 mg/Kg 107 70 - 130 11 35 Ethylbenzene 0.100 0.09617 mg/Kg 96 70 - 130 9 35 m-Xylene & p-Xylene 0.200 0.2029 mg/Kg 101 70 - 130 35 0.100 0.1086 o-Xylene mg/Kg 109 70 - 130 35

LCSD LCSD Qualifier Limits Surrogate %Recovery 4-Bromofluorobenzene (Surr) 111 70 - 130 1,4-Difluorobenzene (Surr) 94 70 - 130

Lab Sample ID: 890-3252-A-2-B MS Client Sample ID: Matrix Spike **Matrix: Solid**

Analysis Batch: 37962

Prep Type: Total/NA Prep Batch: 37686

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.0998	0.09028		mg/Kg		90	70 - 130	
Toluene	<0.00201	U	0.0998	0.09150		mg/Kg		92	70 - 130	
Ethylbenzene	<0.00201	U	0.0998	0.08339		mg/Kg		84	70 - 130	
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1745		mg/Kg		87	70 - 130	
o-Xylene	<0.00201	U	0.0998	0.09453		mg/Kg		95	70 - 130	

MS MS Qualifier Limits 70 - 130 114

Surrogate %Recovery 4-Bromofluorobenzene (Surr) 1,4-Difluorobenzene (Surr) 101 70 - 130

Lab Sample ID: 890-3252-A-2-C MSD

Matrix: Solid

Analysis Batch: 37962

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 37686

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U	0.0990	0.06966		mg/Kg		70	70 - 130	26	35
Toluene	<0.00201	U	0.0990	0.08940		mg/Kg		90	70 - 130	2	35
Ethylbenzene	< 0.00201	U	0.0990	0.08208		mg/Kg		83	70 - 130	2	35

QC Sample Results

Client: Ensolum Job ID: 890-3237-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: 890-3252-A-2-C MSD

Matrix: Solid

Analysis Batch: 37962

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 37686

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1737		mg/Kg		88	70 - 130	0	35
o-Xylene	<0.00201	U	0.0990	0.09585		mg/Kg		97	70 - 130	1	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	125		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

Lab Sample ID: MB 880-37693/5-A **Client Sample ID: Method Blank**

Matrix: Solid

Analysis Batch: 37850

мв мв

Prep Type: Total/NA

Prep Batch: 37693

	III D	1410						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/26/22 19:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/26/22 19:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/26/22 19:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/24/22 17:00	10/26/22 19:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/24/22 17:00	10/26/22 19:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		10/24/22 17:00	10/26/22 19:47	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85	70 - 130	10/24/22 17:00	10/26/22 19:47	1
1,4-Difluorobenzene (Surr)	87	70 - 130	10/24/22 17:00	10/26/22 19:47	1

Lab Sample ID: LCS 880-37693/1-A

Matrix: Solid

Analysis Batch: 37850

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37693

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1174		mg/Kg		117	70 - 130	
Toluene	0.100	0.1151		mg/Kg		115	70 - 130	
Ethylbenzene	0.100	0.1276		mg/Kg		128	70 - 130	
m-Xylene & p-Xylene	0.200	0.2485		mg/Kg		124	70 - 130	
o-Xylene	0.100	0.1220		mg/Kg		122	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	143	S1+	70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-37693/2-A

Released to Imaging: 5/9/2023 1:49:46 PM

Matrix: Solid

Analysis Batch: 37850

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37693

	Spike	LCOD	LCSD				70Rec		KFD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1193		mg/Kg		119	70 - 130	2	35
Toluene	0.100	0.1084		mg/Kg		108	70 - 130	6	35
Ethylbenzene	0.100	0.1273		mg/Kg		127	70 - 130	0	35
m-Xylene & p-Xylene	0.200	0.2460		mg/Kg		123	70 - 130	1	35
o-Xylene	0.100	0.1197		mg/Kg		120	70 - 130	2	35

QC Sample Results

Client: Ensolum Job ID: 890-3237-1 SDG: 03E1558098 Project/Site: JRU 163H

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

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: 890-3234-A-9-D MS Client Sample ID: Matrix Spike

Matrix: Solid

Analysis Batch: 37850

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00202	U	0.100	0.1047		mg/Kg		105	70 - 130	
Toluene	<0.00202	U	0.100	0.1024		mg/Kg		102	70 - 130	
Ethylbenzene	<0.00202	U	0.100	0.1145		mg/Kg		114	70 - 130	
m-Xylene & p-Xylene	<0.00403	U	0.200	0.2199		mg/Kg		110	70 - 130	
o-Xylene	<0.00202	U	0.100	0.1091		mg/Kg		109	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 134 S1+ 70 - 130 1,4-Difluorobenzene (Surr) 92 70 - 130

Lab Sample ID: 890-3234-A-9-E MSD

Matrix: Solid

Analysis Batch: 37850

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

Prep Batch: 37693

Prep Type: Total/NA

Prep Batch: 37693

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00202	U	0.0990	0.09760		mg/Kg		99	70 - 130	7	35
Toluene	<0.00202	U	0.0990	0.09269		mg/Kg		94	70 - 130	10	35
Ethylbenzene	<0.00202	U	0.0990	0.1003		mg/Kg		101	70 - 130	13	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1938		mg/Kg		98	70 - 130	13	35
o-Xylene	<0.00202	U	0.0990	0.1020		mg/Kg		103	70 - 130	7	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: MB 880-37850/8 Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 37850

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			10/26/22 12:53	1
Toluene	<0.00200	U	0.00200	mg/Kg			10/26/22 12:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			10/26/22 12:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			10/26/22 12:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			10/26/22 12:53	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			10/26/22 12:53	1

	MB	MB					
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130	_		10/26/22 12:53	1
1,4-Difluorobenzene (Surr)	96		70 - 130			10/26/22 12:53	1

Client: Ensolum Job ID: 890-3237-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: MB 880-37987/5-A

Matrix: Solid

Analysis Batch: 37962

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37987

	IND	1410						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		10/27/22 09:43	10/27/22 14:04	1
Toluene	<0.00200	U	0.00200	mg/Kg		10/27/22 09:43	10/27/22 14:04	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		10/27/22 09:43	10/27/22 14:04	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		10/27/22 09:43	10/27/22 14:04	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		10/27/22 09:43	10/27/22 14:04	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		10/27/22 09:43	10/27/22 14:04	1

мв мв

MR MR

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111	70 - 130	10/27/22 09:43	10/27/22 14:04	1
1,4-Difluorobenzene (Surr)	106	70 - 130	10/27/22 09:43	10/27/22 14:04	1

Lab Sample ID: LCS 880-37987/1-A

Matrix: Solid

Analysis Batch: 37962

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37987

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.09096		mg/Kg		91	70 - 130	
Toluene	0.100	0.09666		mg/Kg		97	70 - 130	
Ethylbenzene	0.100	0.08571		mg/Kg		86	70 - 130	
m-Xylene & p-Xylene	0.200	0.1777		mg/Kg		89	70 - 130	
o-Xylene	0.100	0.09292		mg/Kg		93	70 - 130	

LCS LCS

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

Lab Sample ID: LCSD 880-37987/2-A

Matrix: Solid

Analysis Batch: 37962

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37987

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1002		mg/Kg		100	70 - 130	10	35
Toluene	0.100	0.1110		mg/Kg		111	70 - 130	14	35
Ethylbenzene	0.100	0.09703		mg/Kg		97	70 - 130	12	35
m-Xylene & p-Xylene	0.200	0.2041		mg/Kg		102	70 - 130	14	35
o-Xylene	0.100	0.1074		mg/Kg		107	70 - 130	14	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1.4-Difluorobenzene (Surr)	101		70 - 130

QC Sample Results

Client: Ensolum Job ID: 890-3237-1 SDG: 03E1558098 Project/Site: JRU 163H

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

Lab Sample ID: MB 880-37501/1-A

Lab Sample ID: LCS 880-37501/2-A

Lab Sample ID: LCSD 880-37501/3-A

Matrix: Solid

Matrix: Solid

Analysis Batch: 37440

Analysis Batch: 37440

Matrix: Solid Analysis Batch: 37440 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 37501

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		10/21/22 13:46	10/21/22 20:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		10/21/22 13:46	10/21/22 20:18	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		10/21/22 13:46	10/21/22 20:18	1
	440	440						

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	10/21/22 13:46	10/21/22 20:18	1
o-Terphenyl	108		70 - 130	10/21/22 13:46	10/21/22 20:18	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 37501

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	1112		mg/Kg	<u> </u>	111	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1053		mg/Kg		105	70 - 130	

LCS LCS

l	Surrogate	%Recovery	Qualifier	Limits
	1-Chlorooctane	97		70 - 130
l	o-Terphenyl	120		70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 37501

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	950.0		mg/Kg		95	70 - 130	16	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	1029		mg/Kg		103	70 - 130	2	20
C10-C28)									

LCSD LCSD

Surrogate	%Recovery Qualifie	er Limits
1-Chlorooctane	96	70 - 130
o-Terphenyl	116	70 - 130

Lab Sample ID: 890-3237-1 MS **Client Sample ID: FS01** Matrix: Solid

Prep Type: Total/NA Prep Batch: 37501 Analysis Batch: 37440

Sample Sample Spike %Rec

	Sample Sample	Spike	INIO	IVIO				/01 \C C
Analyte	Result Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	<49.8 U	998	1078		mg/Kg		105	70 - 130
(GRO)-C6-C10								
Diesel Range Organics (Over	133	998	1006		mg/Kg		87	70 - 130
C10-C28)								

Job ID: 890-3237-1 SDG: 03E1558098

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

Lab Sample ID: 890-3237-1 MS **Matrix: Solid**

Analysis Batch: 37440

Client Sample ID: FS01 Prep Type: Total/NA

Prep Batch: 37501

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 84 70 - 130 o-Terphenyl 91 70 - 130

Lab Sample ID: 890-3237-1 MSD **Client Sample ID: FS01**

Matrix: Solid

Client: Ensolum Project/Site: JRU 163H

Analysis Batch: 37440

Prep Type: Total/NA Prep Batch: 37501

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits **RPD** Limit <49.8 Ū 998 1136 111 70 - 1305 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 998 1003 133 mg/Kg 87 70 - 1300 20

C10-C28)

MSD MSD %Recovery Surrogate Qualifier Limits 83 70 - 130 1-Chlorooctane 89 70 - 130 o-Terphenyl

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-37510/1-A

Matrix: Solid

Analysis Batch: 37597

Client Sample ID: Method Blank **Prep Type: Soluble**

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte Result Qualifier RL Unit D Prepared Dil Fac Analyzed Chloride 5.00 <5.00 U mg/Kg 10/23/22 16:51

Lab Sample ID: LCS 880-37510/2-A

Matrix: Solid

Analysis Batch: 37597			
	Spike	LCS LCS	%Rec

Analyte babbA Result Qualifier Unit %Rec Limits Chloride 250 258.4 mg/Kg 103 90 - 110

мв мв

Lab Sample ID: LCSD 880-37510/3-A

Matrix: Solid

Analysis Batch: 37597

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	255.9		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-3236-A-1-C MS

Matrix: Solid

Analysis Batch: 37597

Released to Imaging: 5/9/2023 1:49:46 PM

Spike MS MS %Rec Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits F1 252 626.5 F1 Chloride 403 mg/Kg 90 - 110

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Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Client Sample ID: Matrix Spike

Prep Type: Soluble

QC Sample Results

Client: Ensolum Job ID: 890-3237-1 Project/Site: JRU 163H SDG: 03E1558098

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3236-A-1-D MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid Prep Type: Soluble**

Analysis Batch: 37597

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	403	F1	252	629.1		mg/Kg		90	90 - 110	0	20

Lab Sample ID: 890-3245-A-1-C MS Client Sample ID: Matrix Spike

Matrix: Solid Prep Type: Soluble

Analysis Batch: 37597

	Sample Sample	Spike	MS MS				%Rec
Analyte	Result Qualifier	Added	Result Qualifie	r Unit	D	%Rec	Limits
Chloride	141	251	406.8	mg/Kg		106	90 - 110

Lab Sample ID: 890-3245-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

Matrix: Solid **Prep Type: Soluble**

Analysis Batch: 37597

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	141		251	405.1		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Ensolum Job ID: 890-3237-1 Project/Site: JRU 163H SDG: 03E1558098

GC VOA

Prep Batch: 37686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
LCS 880-37686/1-A	Lab Control Sample	Total/NA	Solid	5035
LCSD 880-37686/2-A	Lab Control Sample Dup	Total/NA	Solid	5035
890-3252-A-2-B MS	Matrix Spike	Total/NA	Solid	5035
890-3252-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035

Prep Batch: 37693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	5035	
890-3237-2	FS02	Total/NA	Solid	5035	
890-3237-3	FS03	Total/NA	Solid	5035	
890-3237-4	FS04	Total/NA	Solid	5035	
MB 880-37693/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37693/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37693/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3234-A-9-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3234-A-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 37850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	8021B	37693
890-3237-2	FS02	Total/NA	Solid	8021B	37693
890-3237-3	FS03	Total/NA	Solid	8021B	37693
890-3237-4	FS04	Total/NA	Solid	8021B	37693
MB 880-37693/5-A	Method Blank	Total/NA	Solid	8021B	37693
MB 880-37850/8	Method Blank	Total/NA	Solid	8021B	
LCS 880-37693/1-A	Lab Control Sample	Total/NA	Solid	8021B	37693
LCSD 880-37693/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37693
890-3234-A-9-D MS	Matrix Spike	Total/NA	Solid	8021B	37693
890-3234-A-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37693

Analysis Batch: 37962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-2	FS02	Total/NA	Solid	8021B	37987
MB 880-37987/5-A	Method Blank	Total/NA	Solid	8021B	37987
LCS 880-37686/1-A	Lab Control Sample	Total/NA	Solid	8021B	37686
LCS 880-37987/1-A	Lab Control Sample	Total/NA	Solid	8021B	37987
LCSD 880-37686/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37686
LCSD 880-37987/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	37987
890-3252-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	37686
890-3252-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	37686

Prep Batch: 37987

Lab Sample ID 890-3237-2	Client Sample ID FS02	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-37987/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-37987/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-37987/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 37996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	Total BTEX	

QC Association Summary

 Client: Ensolum
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

GC VOA (Continued)

Analysis Batch: 37996 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-2	FS02	Total/NA	Solid	Total BTEX	
890-3237-3	FS03	Total/NA	Solid	Total BTEX	
890-3237-4	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 37440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	8015B NM	37501
890-3237-2	FS02	Total/NA	Solid	8015B NM	37501
890-3237-3	FS03	Total/NA	Solid	8015B NM	37501
890-3237-4	FS04	Total/NA	Solid	8015B NM	37501
MB 880-37501/1-A	Method Blank	Total/NA	Solid	8015B NM	37501
LCS 880-37501/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	37501
LCSD 880-37501/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	37501
890-3237-1 MS	FS01	Total/NA	Solid	8015B NM	37501
890-3237-1 MSD	FS01	Total/NA	Solid	8015B NM	37501

Prep Batch: 37501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	8015NM Prep	
890-3237-2	FS02	Total/NA	Solid	8015NM Prep	
890-3237-3	FS03	Total/NA	Solid	8015NM Prep	
890-3237-4	FS04	Total/NA	Solid	8015NM Prep	
MB 880-37501/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-37501/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-37501/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3237-1 MS	FS01	Total/NA	Solid	8015NM Prep	
890-3237-1 MSD	FS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 37665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Total/NA	Solid	8015 NM	
890-3237-2	FS02	Total/NA	Solid	8015 NM	
890-3237-3	FS03	Total/NA	Solid	8015 NM	
890-3237-4	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 37510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Soluble	Solid	DI Leach	_
890-3237-2	FS02	Soluble	Solid	DI Leach	
890-3237-3	FS03	Soluble	Solid	DI Leach	
890-3237-4	FS04	Soluble	Solid	DI Leach	
MB 880-37510/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-37510/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-37510/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3236-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3236-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3245-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3245-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

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QC Association Summary

 Client: Ensolum
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

HPLC/IC

Analysis Batch: 37597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3237-1	FS01	Soluble	Solid	300.0	37510
890-3237-2	FS02	Soluble	Solid	300.0	37510
890-3237-3	FS03	Soluble	Solid	300.0	37510
890-3237-4	FS04	Soluble	Solid	300.0	37510
MB 880-37510/1-A	Method Blank	Soluble	Solid	300.0	37510
LCS 880-37510/2-A	Lab Control Sample	Soluble	Solid	300.0	37510
LCSD 880-37510/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	37510
890-3236-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	37510
890-3236-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37510
890-3245-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	37510
890-3245-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	37510

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Client: Ensolum Job ID: 890-3237-1 Project/Site: JRU 163H SDG: 03E1558098

Client Sample ID: FS01 Lab Sample ID: 890-3237-1

Date Collected: 10/17/22 13:10 Matrix: Solid Date Received: 10/20/22 09:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37693	10/24/22 17:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37850	10/27/22 02:12	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37996	10/27/22 10:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			37665	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 21:22	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/23/22 17:30	CH	EET MID

Client Sample ID: FS02 Lab Sample ID: 890-3237-2 Matrix: Solid

Date Collected: 10/17/22 13:20 Date Received: 10/20/22 09:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	37987	10/27/22 09:43	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37962	10/27/22 20:27	MNR	EET MID
Total/NA	Prep	5035			4.99 g	5 mL	37693	10/24/22 17:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37850	10/27/22 02:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37996	10/27/22 10:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			37665	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	37501	10/21/22 13:46	DM	EET MIC
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 22:27	SM	EET MIC
Soluble	Leach	DI Leach			4.98 g	50 mL	37510	10/21/22 14:10	KS	EET MIC
Soluble	Analysis	300.0		5	50 mL	50 mL	37597	10/23/22 17:35	CH	EET MID

Client Sample ID: FS03 Lab Sample ID: 890-3237-3

Date Collected: 10/17/22 13:30 Date Received: 10/20/22 09:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	37693	10/24/22 17:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37850	10/27/22 03:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37996	10/27/22 10:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			37665	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 22:48	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	37597	10/24/22 13:28	CH	EET MID

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Matrix: Solid

Lab Chronicle

 Client: Ensolum
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Client Sample ID: FS04

Lab Sample ID: 890-3237-4

Matrix: Solid

Date Collected: 10/17/22 13:40 Date Received: 10/20/22 09:38

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	37693	10/25/22 17:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	37850	10/27/22 03:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			37996	10/27/22 10:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			37665	10/24/22 12:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	37501	10/21/22 13:46	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	37440	10/21/22 23:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	37510	10/21/22 14:10	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	37597	10/23/22 17:54	CH	EET MID

Laboratory References:

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

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Accreditation/Certification Summary

 Client: Ensolum
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

Laboratory: Eurofins Midland

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

Authority	Pre	ogram	Identification Number	Expiration Date
Texas	NE	LAP	T104704400-22-24	06-30-23
The following analytes	are included in this report, but	t the laboratory is not certifi	ed by the governing authority. This list ma	av include analytee for w
the agency does not of	' '	t the laboratory is not certifi	ed by the governing additionty. This list the	ay include analytes for v
,	' '	Matrix	Analyte	ay include analytes for v
the agency does not of	fer certification.	,	, , ,	ay include analytes for v

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Method Summary

 Client: Ensolum
 Job ID: 890-3237-1

 Project/Site: JRU 163H
 SDG: 03E1558098

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

Eurofins Carlsbad

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Sample Summary

Client: Ensolum

Project/Site: JRU 163H

Job ID: 890-3237-1 SDG: 03E1558098

epth				
	epth			

Revised Date: 08/25/2020 Rev. 2020.

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

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60 (0c)01 Date/Time

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.

Received by: (Signature)

Relinquished by: (Signature)

Chain of Custody

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

Environment Testing Xenco

eurofins 🕏

Work Order No:

Project Name For 15 Per					-			
State of Project State S		19111		Bill to: (if different	()	XTO ENESY	Work Order	
### STATE Light Light Hard State of Projects State of Pr		- rales		Company Name:		Surrett Sound	UST/PST ☐ PRP□	
		_	cles Hwy	Address:		3104 E. Green ST]
	P ZIP:		18220	City, State ZIP:		5588 ml.		
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The control of the		4521 (Tur	n Around		ANALYSIS REQUE	TSE	Preservative Codes
Total State Fold of Collection Total state the day recovered by the first of the day recovered by the day of the last recovered beauting Total State T		1558098	Routine	Rush	Pres.			None: NO DI Water: H ₂ O
HCL-HC		613						
Part		2,100 con	+	le day received by				
91E RECEIPT Temp Blank: Case No Weetler: CPS No Ceretion for the month of Custody Seals: No April 10 of Custody Seals: No April 20 of Custody Seals: <th< td=""><td></td><td></td><td>the lab, if re</td><td>ceived by 4:30pm</td><td></td><td></td><td></td><td></td></th<>			the lab, if re	ceived by 4:30pm				
NaHSO 4: NABIS Na ₂ , 2,0,3: NaSO 3 Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC Sample Comments AUMAD 22 i 4 th AUMAD 100 I 00	PLE RECEIPT			No No	eters			H₃PO 4: HP
			rmometer ID:	Town 50	men	8		NaHSO 4: NABIS
2n Acetate+NaOH: Zn Ace			rection Factor:	1.00.7	eq .			Na ₂ S ₂ O ₃ : Na ₅ O ₃
Sample Comments Sample Comments AURO 2219 64 AURO 100 I H Se Ag SiO ₂ Na Sr Tl Sn U V Zn Hg: 1631/245.1/7470 /7471		AM	nperature Reading:	3.8	Í		ustody	Zn Acetate+NaOH: Zn
Sample Comments 141/4617 1944 114060 100 11 K Se Ag SiO ₂ Na Sr TI Sn U V Zn Hg: 1631/245.1/7470 /7471	Total Containers:	Col	rected Temperature:	اد الا	10	15		NaOH+Ascorbic Acid: SAPC
1400 2019 44 100 100 11 11 11 11 11 11 11 11 11 11 1	Sample Identification				# of Cont	7		Sample Comments
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II K Se Ag SiO ₂ Na Sr Tl Hg: 1631/245.1/7								
Hg: 1631 / 245.1 / 7470		0.8 / 6020:	8RCRA 13P	Texas 11	Al Sb A	B Cd	Se	Sr TI Sn U V Zn
	Circle Method(s) and Metal	(s) to be analyze		SPLP 6010 : 8RC	CRA Sb	As Ba Be Cd Cr Co Cu Pb Mn Mo Ni S		
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Login Sample Receipt Checklist

 Client: Ensolum
 Job Number: 890-3237-1

 SDG Number: 03E1558098

Login Number: 3237 List Source: Eurofins Carlsbad

List Number: 1 Creator: Stutzman, Amanda

Question **Answer** Comment The cooler's custody seal, if present, is intact. True Sample custody seals, if present, are intact. True The cooler or samples do not appear to have been compromised or True tampered with. Samples were received on ice. True True Cooler Temperature is acceptable. 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 True HTs) 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 N/A Sample Preservation Verified. There is sufficient vol. for all requested analyses, incl. any requested True MS/MSDs Containers requiring zero headspace have no headspace or bubble is N/A

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<6mm (1/4").

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3237-1 SDG Number: 03E1558098

10/28/2022

Login Number: 3237
List Source: Eurofins Midland
List Number: 2
List Creation: 10/21/22 10:46 AM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").



APPENDIX E

NMOCD Email Notifications

From: Hamlet, Robert, EMNRD

To: Green, Garrett J

Cc: DelawareSpills /SM; Tacoma Morrissey; Ben Belill; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon,

Jocelyn, EMNRD

Subject: (Extension Approval) - James Ranch Unit 163H (Incident Number NAPP2219649599)

Date: Friday, October 7, 2022 5:38:56 PM

[**EXTERNAL EMAIL**]

RE: Incident #NAPP2219649599

Garrett,

Your request for an extension to **January 7th, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced

Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us

http://www.emnrd.state.nm.us/OCD/



From: Green, Garrett J <garrett.green@exxonmobil.com>

Sent: Friday, October 7, 2022 1:47 PM

To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD

<Robert.Hamlet@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>

Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Tacoma Morrissey

<tmorrissey@ensolum.com>; Ben Belill <bbelill@ensolum.com>

Subject: [EXTERNAL] Extension Request - James Ranch Unit 163H (Incident Number

NAPP2219649599)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

XTO - James Ranch Unit 163H - Incident Number NAPP2219649599

XTO is requesting an extension for the current deadline of October 9, 2022, for submitting a remediation work plan or closure request required in 19.15.29.12.B.(1) NMAC at the James Ranch

Unit 163H (Incident Number NAPP2219649599). The release occurred on July 11, 2022. An initial assessment of the release was completed August 19, 2022. Delineation and excavation activities are scheduled to be conducted throughout the week of October 10, 2022. In order to complete the remediation activities, review laboratory analytical results, and submit a remediation work plan or closure request, XTO is requesting a 90-day extension for the release until January 7, 2023.

Thank you,

Garrett Green

Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc. 3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729 From: Tacoma Morrissey

To: Ben Belill

Subject: Fwd: XTO - Sampling Notification (Week of 10/10/22 - 10/14/22)

Date: Monday, November 28, 2022 5:54:02 PM

Hey Ben,

Is this the one you're missing?

Tacoma Morrissey

Senior Geologist 337-257-8307

Ensolum, LLC

From: Green, Garrett J <garrett.green@exxonmobil.com>

Sent: Friday, October 7, 2022 2:49:52 PM

To: ocd.enviro@emnrd.nm.gov <ocd.enviro@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Tacoma Morrissey

<tmorrissey@ensolum.com>

Subject: XTO - Sampling Notification (Week of 10/10/22 - 10/14/22)

[**EXTERNAL EMAIL**]

All.

XTO plans to complete final sampling activities at the following sites the week of Oct 10, 2022.

Monday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 78 SWD / NAPP2126639352

Tuesday

- BEU 29W Vader 100H / nAPP2102831345
- PLU 78 SWD / NAPP2126639352

Wednesday

- BEU 29W Vader 100H / nAPP2102831345
- JRU 163 / nAPP2219649599
- PLU 411/ nAPP2219646774

Thursday

- BEU 29W Vader 100H / nAPP2102831345
- JRU 163 / nAPP2219649599
- PLU 411/ nAPP2219646774

Friday

BEU 29W Vader 100H / nAPP2102831345

Thank you,

Garrett Green

Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. **Santa Fe, NM 87505**

CONDITIONS

Action 173386

CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	173386
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created I	Condition Condition	Condition Date
rhamle	XTO's deferral requests to complete final remediation during any future major construction/alteration or final plugging/abandonment, whichever occurs first. Ensolum and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The areas requested for deferral are "FS01", "FS02", and "FS04". The areas have been delineated and documented in the report. At this time, OCD approves this request. The Deferral Request and C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue. This is a federal site and will require like approval from the BLM.	5/9/2023