Page 1 of 97

Incident ID	NAPP2305452388
District RP	
Facility ID	
Application ID	

## Closure

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

Closure Report Attachment Checklist: Each of the following	items must be included in the closure report.
	.11 NMAC
Photographs of the remediated site prior to backfill or photomust be notified 2 days prior to liner inspection)	os of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate OI	OC District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certa may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of	lations. The responsible party acknowledges they must substantially conditions that existed prior to the release or their final land use in
Signature:	Date:5/8/2023
email:garrett.green@exxonmobil.com	Telephone: 575-200-0729
OCD Only	
Received by: Jocelyn Harimon	Date: 05/10/2023
	y of liability should their operations have failed to adequately investigate and e water, human health, or the environment nor does not relieve the responsible d/or regulations.
Closure Approved by: Robert Hamlet	Date: 9/28/2023
Printed Name: Robert Hamlet	Title: Environmental Specialist - Advanced
<del></del>	

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	NAPP2305452388
District RP	
Facility ID	
Application ID	

## **Release Notification**

## **Responsible Party**

Responsible					5380	
Contact Nan				Contact Te	elephone 575-20	0-0729
Contact ema	<sup>il</sup> garrett.gre	en@exxonmobil.c	om	Incident #	(assigned by OCD)	
			reet, Carlsbad, Nev	w Mexico, 88220		
			Location	of Release So	ource	
Latitude 32	2.36881			Longitude _	-103.86730	
			(NAD 83 in deci	imal degrees to 5 decim	ial places)	
Site Name	Iames Ranc	ch Unit 21 SWD		Site Type	Salt Water Disp	oosal
Date Release				API# (if app.		
Unit Letter	Section	Township	Range	Coun	ty	
В	27	22S	30E	Edd	y	
	Materia	ıl(s) Released (Select al	l that apply and attach o	Volume of F	justification for the	volumes provided below)
Crude Oi		Volume Release	* *		Volume Reco	
➤ Produced	Water	Volume Release	d (bbls) Unknown	ı	Volume Reco	30.00
		in the produced	tion of total dissolv water >10,000 mg/	` '	X Yes □ N	
Condensa	ite	Volume Release	d (bbls)		Volume Reco	vered (bbls)
☐ Natural C	ias	Volume Release	d (Mcf)		Volume Reco	vered (Mcf)
Other (de	scribe)	Volume/Weight	Released (provide	units)	Volume/Weig	ht Recovered (provide units)
Cause of Rel	vacuum	hown amount of p	roduced water was	released due to m	e. All Hulus lei	inguished fire. No injuries were reported. nained within the containment walls. A party contractor has been retained for

- 73	770		- 4	A 1	c 0 1	
•	n n	100	ne.	0.1	4.0	
	uu		K.F.	471	5 <b>9</b> 3	
		_	_		2	

Incident ID	NAPP2305452388
District RP	
Facility ID	
Application ID	

Was this a major release as defined by	If YES, for what reason(s) does the respon	
19.15.29.7(A) NMAC?	A release that results in a fire or is the resu	ill of a fire.
Yes □ No		
· ·	·	nom? When and by what means (phone, email, etc)?  Robert Hamlet, and Jocelyn Harimon on 2/10/2023 via email.
res, by Garren Green to	ocd.enviro@eniind.inn.gov, wike Braicher,	Robert Franciet, and Joceryn Francisco on 2/10/2023 via email.
	Initial R	esponse
The responsible	party must undertake the following actions immediated	y unless they could create a safety hazard that would result in injury
➤ The source of the rele	ease has been stonned	
l	as been secured to protect human health and	the environment.
1	<u>-</u>	likes, absorbent pads, or other containment devices.
l	recoverable materials have been removed an	
If all the actions describe	ed above have <u>not</u> been undertaken, explain	why:
NA		
Dor 10 15 20 9 D (4) NM	AAC the responsible party may commence a	emediation immediately after discovery of a release. If remediation
has begun, please attach	a narrative of actions to date. If remedial	efforts have been successfully completed or if the release occurred blease attach all information needed for closure evaluation.
		best of my knowledge and understand that pursuant to OCD rules and
		fications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have
		at to groundwater, surface water, human health or the environment. In responsibility for compliance with any other federal, state, or local laws
and/or regulations.	-	responsionity for compilance with any other rederat, state, or recar tame
Printed Name: Garrett G	reen	Title: SSHE Coordinator
Signature:	att Sum	Date: 2/23/23
email: garrett.green@ex	xonmobil.com	Telephone: 575-200-0729
OCD Only		
_		
Received by:Jocel	yn Harimon	Date:02/24/2023

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 190073

### **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	190073
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
jharimon	When submitting future reports regarding this release, please submit the calculations used or specific justification for the volumes reported on the initial C-141	2/24/2023

	Page 5 of 9
Incident ID	NAPP2305452388
District RP	
Facility ID	
Application ID	

## **Site Assessment/Characterization**

This information must be provided to the appropriate district office no taler than 50 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release?	<u>&gt;100</u> (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ⊠ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No
Did the release impact areas <b>not</b> 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 ver contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.	tical extents of soil
Characterization Report Checklist: Each of the following items must be included in the report.	
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wel</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> <li>Depth to water determination</li> </ul>	ls.

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.

Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release

Boring or excavation logs

Topographic/Aerial maps

Photographs including date and GIS information

Laboratory data including chain of custody

Received by OCD: 5/10/2023 7:05:50 AM Form C-141 State of New Mexico Page 4 Oil Conservation Division

	Page 6 of	97
Incident ID	NAPP2305452388	
District RP		
Facility ID		
Application ID		

	tifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have reat to groundwater, surface water, human health or the environment. In
Printed Name: Garrett Green	Title: _SSHE Coordinator
Printed Name: Garrett Green Signature: Salar	Date:
email:garrett.green@exxonmobil.com	Telephone:
OCD Only	
Received by: Jocelyn Harimon	Date:05/10/2023

Page 7 of 97

Incident ID	NAPP2305452388
District RP	
Facility ID	
Application ID	

## Closure

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

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

	11 NMAC						
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	s of the liner integrity if applicable (Note: appropriate OCD District office						
☐ Laboratory analyses of final sampling (Note: appropriate OD	C District office must be notified 2 days prior to final sampling)						
Description of remediation activities							
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.							
Printed Name: Garrett Green	Title: SSHE Coordinator						
Signature:	Date: 5/8/2023						
email:garrett.green@exxonmobil.com	Telephone:575-200-0729						
OCD Only							
Received by:Jocelyn Harimon	Date: <u>05/10/2023</u>						
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible for regulations.						
Closure Approved by:	Date:						
Printed Name:	Title:						



May 8, 2023

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

Re: Closure Request

**James Ranch Unit 21 SWD** 

**Incident Number NAPP2305452388** 

**Eddy County, New Mexico** 

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc (XTO), has prepared this *Closure Request* to document assessment and soil sampling activities performed at the James Ranch Unit 21 SWD (Site). The purpose of the Site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water within a lined containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing Site assessment and delineation activities that have occurred and requesting no further action and closure for Incident Number NAPP2305452388.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 27, Township 22 South, Range 30 East, in Eddy County, New Mexico (32.36881°, -103.86730°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On February 10, 2023, two produced water fiberglass tanks ignited, causing a fire at the facility. The local fire department responded and extinguished the fire, no injuries were reported. The damaged tanks released an unknown amount of produced water into the lined containment. All released fluids were contained within the containment walls. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 50 bbls of a produced water and freshwater mixture were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on February 10, 2023, and submitted a Release Notification Form C-141 (Form C-141) on February 23, 2023. The release was assigned Incident Number NAPP2305452388.

#### 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 groudwater well with depth to groundwater data is a groundwater monitoring well (C-03015) permitted by the New Mexico Office of the State Engineer (NMOSE), located approximately 0.41 miles northwest of the Site. The groundwater

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 3122 National Parks Highway | Carlsbad, New Mexico 88220 | ensolum.com

XTO Energy, Inc Closure Request James Ranch Unit 21 SWD

well has a reported depth to groundwater of 262 feet bgs and a total depth of 1,316 feet bgs. All wells used for depth to groudwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 2,619 feet north of the Site. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Potential site receptors are identified on Figure 1.

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

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

### SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 21, 2023, liner inspection and Site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. A 48-hour advance notice of liner inspection was provided via email to the NMOCD office on March 17, 2023. The liner integrity inspection was conducted by Ensolum personnel and upon inspection, the liner was determined to be insufficient, due to damage from the fire. Four lateral delineation soil samples (SS01 through SS04) were collected around the lined containment at a depth of 0.5 feet bgs to confirm the release did not extend outside the lined containment. The containment area and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Soil from the delineation soil samples was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. Photographic doumentation was conducted during the liner inspection and Site visits and a photographic log 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 and Cardinal Laboratories in Hobbs, New Mexico for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to 6 degrees Celcius required for shipment and long term storage, but are considered to have been received in acceptable condition by the laboratory.

On April 6, 2023, Ensolum personnel returned to the Site to conduct additional delineation activities. One borehole (BH01) was advanced utilizing a hand auger at the location of the large tear in the liner to assess for the presence or absence of impacted soil. The borehole was advanced to a depth of 2 feet bgs. Two discrete delineation soil samples were collected from the borehole at depths of approximately



XTO Energy, Inc Closure Request James Ranch Unit 21 SWD

0.5 feet and 2 feet bgs. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix C. The borehole was backfilled with the soil removed and XTO will install a new liner and finalize repairs to the battery. One additional lateral delineation soil sample (SS05) was collected west of sample SS02 at a depth of 0.5 feet bgs to define the lateral extent to the most stringent Table I Closure Criteria. Delineation soil samples from borehole BH01 and soil sample SS05 were handled and anlayzed as described above.

Laboratory analytical results for lateral delineation samples SS01 through SS05 and borehole delineation samples BH01 and BH01A indicated all COC concentrations were compliant with the Site Closure Criteria. Additionally, delineation soil samples SS01 and SS03 through SS05 defined the lateral extent to the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

### **CLOSURE REQUEST**

Following the failed liner integrity inspection at the Site, Ensolum personnel advanced one borehole (BH01) at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the February 10, 2023, produced water release within the lined containment. Two delineation soil samples were collected from borehole BH01 at depths of 0.5 feet and 2 feet bgs. Laboratory analytical results for the delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria, confirming the absence of impacts to soil resulting from the release. Additionally, laboratory analytical results for soil samples SS01 and SS03 through SS05 collected around the containment, were compliant with the most stringent Table I Closure Criteria and confirmed the release was contained laterally by the lined containment wall. NMOCD notifications are included in Appendix E.

Based on initial response efforts, soil sample laboratory analytical results compliant with the Site Closure Criteria directly beneath the tear in the liner, and depth to groundwater greater than 100 feet bgs within 0.5 miles of the Site, XTO respectfully requests closure for Incident Number NAPP2305452388.

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

cc: Garrett Green, XTO Shelby Pennington, XTO

BLM

Ashley L. Ager, M.S., PG Principal

ashley L. ager

ENSOLUM

XTO Energy, Inc Closure Request James Ranch Unit 21 SWD

### Appendices:

Figure 1 Site Receptor Map

Figure 2 Delineation Soil Sample Locations
Table 1 Soil Sample Analytical Results
Appendix A Referenced Well Records

Appendix B Photographic Log

Appendix C Lithologic Soil Sampling Logs

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

Appendix E NMOCD Sample Notification





**FIGURES** 



# **Site Receptor Map**

Copyric

XTO Energy, Inc James Ranch Unit 21 SWD Incident Number: NAPP2305452388

Unit B, Section 27, T22S, R30E Eddy County, New Mexico FIGURE 1

Feet





# **Delineation Soil Sample Locations**

XTO Energy, Inc James Ranch Unit 21 SWD Incident Number: NAPP2305452388

> Unit B, Section 27, T22S, R30E Eddy County, New Mexico

FIGURE

2



**TABLES** 



### TABLE 1 **SOIL SAMPLE ANALYTICAL RESULTS James Ranch Unit 21 SWD XTO Energy, Inc Eddy County, New Mexico**

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
	Delineation Soil Samples									
SS01	03/21/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	62.9
SS02	03/21/2023	0.5	<0.00200	< 0.00399	<49.8	341	300	341	641	739
SS03	03/21/2023	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	584
SS04	03/21/2023	0.5	<0.00198	< 0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	284
SS05	04/06/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
BH01	04/06/2023	0.5	<0.050	<0.300	<10.0	132	20.6	132	152	4,000
BH01A	04/06/2023	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	832

#### 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 I Closure Criteria

GRO: Gasoline Range Organics

DRO: Diesel Range Organics ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Ensolum 1 of 1



**APPENDIX A** 

Referenced Well Records



# New Mexico Office of the State Engineer

# **Point of Diversion Summary**

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag **POD Number**  Q64 Q16 Q4 Sec Tws Rng

 $\mathbf{X}$ Y

C 03015

3 22 22S 30E

606099 3582353\*

**Driller License:** 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING

**Driller Name:** 

**Drill Start Date:** 01/21/2004 **Drill Finish Date:** 

01/25/2004 Plug Date:

Log File Date:

03/04/2004

**PCW Rcv Date:** 

Depth Well:

Source:

Artesian

**Pump Type:** 

Pipe Discharge Size:

**Estimated Yield:** 

**Casing Size:** 6.00

1316 feet

**Depth Water:** 

262 feet

Water Bearing Stratifications:

Top

**Bottom Description** 

362

385 Other/Unknown

**Casing Perforations:** 

Top **Bottom** 

261 386

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.

3/9/23 10:48 AM

POINT OF DIVERSION SUMMARY

<sup>\*</sup>UTM location was derived from PLSS - see Help



**APPENDIX B** 

Photographic Log

# **ENSOLUM**

Photographic Log

XTO Energy, Inc

James Ranch Unit 21 SWD

Incident Number NAPP2305452388





Date: 3/21/2023

Photograph 1 Date: 3/21/2023 Photograph 2

Description: Site assessment activities, liner containment Description: Site assessment activities, liner containment

View: Southeast View: East





Photograph 3 Date: 3/21/2023 Photograph 4 Date: 4/6/2023

Description: Site assessment activities, liner containment Description: Delineation activities, BH01.

View: South View: Southeast



APPENDIX C

Lithologic Soil Sampling Logs

								Sample Name: BH01	Date: 4/6/2023
	7							Site Name: JRU 21 SWD Fire	, , , , , ,
			N	3	U	U	V	Incident Number: nAPP2305452	388
								Job Number: 03C1558189	
		LITHOL	.OGI	C / SOIL S	SAMPLING	LOG		Logged By: Kase Parker	Method: Hand Auger
Coord	inates: 32							Hole Diameter: 3.5"	Total Depth: 2'
			_					PID for chloride and vapor, response factors included.	ectively. Chloride test
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	·
М	4,468	193	Υ	BH01	0.5 <u> </u>	0	SP (fill)	0-1', SAND, moist, reddish medium-coarse grained, brown staining, fill.	brown, poorly graded mild H/C odor, dark
М	4,468	17.3	N		1 _	1 -	SC	1'-2', CLAYEY SAND, moist poorly graded, very fine- no odor.	, reddish brown, -fine grained, no stain,
М	207	2.7	N	BH01A	2	_ 2			
				2110211		-	TD	Total depth at 2 feet bgs.	
					_	_			
					_	3			
					_	=			
					- - -	- - 4 -			
					- - -	- - _ 5			
					- - -	- - 6			
					- - -	- - 7			
					- - -	- - - 8			
					- - -	- - - 9			
					- - -	10			
					- - -	- - - 11			
					- - -	- - 12			



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Ben Belill

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 4/3/2023 4:05:15 PM

# **JOB DESCRIPTION**

JRU 21 SWD Fire SDG NUMBER 03C1558189

## **JOB NUMBER**

890-4380-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 4/3/2023 4:05:15 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Client: Ensolum
Project/Site: JRU 21 SWD Fire
Laboratory Job ID: 890-4380-1
SDG: 03C1558189

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Racaint Chacklists	20

# 8

## **Definitions/Glossary**

Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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

GC Semi VOA

Qualifier **Qualifier Description** 

\*+ LCS and/or LCSD is outside acceptance limits, high biased. S1+ Surrogate recovery exceeds control limits, high biased. U 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 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 **Practical Quantitation Limit** PQL

**PRES** Presumptive QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

**RPD** Relative Percent Difference, a measure of the relative difference between two points

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

**TNTC** Too Numerous To Count

### Case Narrative

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4380-1

SDG: 03C1558189

Job ID: 890-4380-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-4380-1

### Receipt

The samples were received on 3/21/2023 3:45 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 2.2°C

### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4380-1) and SS02 (890-4380-2).

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-49804 and analytical batch 880-50101 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-49658 and analytical batch 880-49689 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-49658/2-A) and (LCSD 880-49658/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-49658 and analytical batch 880-49689 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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Page 5 of 21

Released to Imaging: 9/28/2023 9:42:29 AM

**Matrix: Solid** 

Lab Sample ID: 890-4380-1

03/29/23 10:03 04/03/23 03:54

Job ID: 890-4380-1 SDG: 03C1558189

Project/Site: JRU 21 SWD Fire

Client Sample ID: SS01

Date Collected: 03/21/23 11:10 Date Received: 03/21/23 15:45

Sample Depth: 0.5

1,4-Difluorobenzene (Surr)

Client: Ensolum

Method: SW846 8021B - Vo Analyte	Result	Qualifier	RL	Unit	D Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
Toluene	< 0.00199	U	0.00199	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg	03/29/23 10:03	04/03/23 03:54	1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130		03/29/23 10:03	04/03/23 03:54	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			04/03/23 15:20	1

70 - 130

81

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Total TPH	<49.9	U	49.9	mg/Kg			03/29/23 14:59	1

Method: 544846 8015B NW - L	•	•	, , ,	1114	_	Duamanad	Aughmad	D:: F
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/27/23 16:18	03/28/23 20:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U *+	49.9	mg/Kg		03/27/23 16:18	03/28/23 20:38	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/27/23 16:18	03/28/23 20:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	03/27/23 16:18	03/28/23 20:38	1
o-Terphenyl	99		70 - 130	03/27/23 16:18	03/28/23 20:38	1

Method: EPA 300.0 - Anions, id	on Chromatography - S	olubie					
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62.9	4.97	mg/Kg			03/31/23 20:34	1

Client Sample ID: SS02

Date Collected: 03/21/23 11:20

Lab Sample ID: 890-4380-2

Matrix: Solid

Date Received: 03/21/23 15:45 Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/29/23 10:03	04/03/23 04:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130			03/29/23 10:03	04/03/23 04:15	1

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2

5

5

7

4 4

12

4 4

## **Client Sample Results**

Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

**Client Sample ID: SS02** Lab Sample ID: 890-4380-2 Matrix: Solid Date Collected: 03/21/23 11:20 Date Received: 03/21/23 15:45

Sample Depth: 0.5

Analyte

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	84		70 - 130			03/29/23 10:03	04/03/23 04:15	1
Method: TAL SOP Total BTE	X - Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			04/03/23 15:20	1
Method: SW846 8015 NM - D	iesel Range (	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	641		49.8	mg/Kg			03/29/23 14:59	1
Analyte	_	Qualifier	RL	Unit	_ D	Prepared	Analyzed	Dil Fac
Method: SW846 8015B NM -	_	_	. , . ,		_			
Gasoline Range Organics	<49.8	U	49.8	mg/Kg		03/27/23 16:18	03/28/23 20:59	1
(GRO)-C6-C10 Diesel Range Organics (Over	341	**	49.8	mg/Kg		03/27/23 16:18	03/28/23 20:50	
C10-C28)	341	•	43.0	mg/rtg		03/21/23 10.10	03/20/23 20.39	,
Oll Range Organics (Over	300		49.8	mg/Kg		03/27/23 16:18	03/28/23 20:59	1
C28-C36)								
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130			03/27/23 16:18	03/28/23 20:59	1
o-Terphenyl	102		70 - 130			03/27/23 16:18	03/28/23 20:59	

RL

4.95

Unit

mg/Kg

Prepared

Analyzed

03/31/23 20:48

Dil Fac

Result Qualifier

739

## **Surrogate Summary**

Client: Ensolum Job ID: 890-4380-1
Project/Site: JRU 21 SWD Fire SDG: 03C1558189

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4380-1	SS01	122	81	
890-4380-2	SS02	113	84	
890-4382-A-1-D MS	Matrix Spike	108	88	
890-4382-A-1-E MSD	Matrix Spike Duplicate	97	91	
LCS 880-49804/1-A	Lab Control Sample	100	92	
LCSD 880-49804/2-A	Lab Control Sample Dup	96	90	
MB 880-49804/5-A	Method Blank	118	130	

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

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

Matrix: Solid Prep Type: Total/NA

_			Perce
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4380-1	SS01	89	99
890-4380-2	SS02	89	102
890-4382-A-1-B MS	Matrix Spike	112	120
890-4382-A-1-C MSD	Matrix Spike Duplicate	101	112
LCS 880-49658/2-A	Lab Control Sample	125	152 S1+
LCSD 880-49658/3-A	Lab Control Sample Dup	134 S1+	151 S1+
MB 880-49658/1-A	Method Blank	112	137 S1+

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49804/5-A

**Matrix: Solid** 

**Analysis Batch: 50101** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 49804

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/29/23 10:03	04/02/23 20:16	1

MB MB

Surrogate	%Recovery Qualifier	Limits	
4-Bromofluorobenzene (Surr)	118	70 - 130	
1,4-Difluorobenzene (Surr)	130	70 - 130	

03/29/23 10:03 04/02/23 20:16

Prepared

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 49804

Analyzed

**Analysis Batch: 50101** 

**Matrix: Solid** 

Lab Sample ID: LCS 880-49804/1-A

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.1038 70 - 130 0.100 mg/Kg 104 Toluene 0.100 0.1085 mg/Kg 70 - 130 109 Ethylbenzene 0.100 0.09943 mg/Kg 99 70 - 130 0.200 101 m-Xylene & p-Xylene 0.2023 mg/Kg 70 - 130 o-Xylene 0.100 0.1010 mg/Kg 101 70 - 130

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

**Analysis Batch: 50101** 

Lab Sample ID: LCSD 880-49804/2-A

Prep Type: Total/NA Prep Batch: 49804 LCCD LCCD

	<b>э</b> ріке	LCSD	LCSD				%Rec		KPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09513		mg/Kg		95	70 - 130	9	35
Toluene	0.100	0.1008		mg/Kg		101	70 - 130	7	35
Ethylbenzene	0.100	0.09340		mg/Kg		93	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1907		mg/Kg		95	70 - 130	6	35
o-Xylene	0.100	0.09528		mg/Kg		95	70 - 130	6	35

Chika

LCSD LCSD

Surrogate	%Recovery Qualifi	er Limits
4-Bromofluorobenzene (Surr)	96	70 - 130
1,4-Difluorobenzene (Surr)	90	70 - 130

Lab Sample ID: 890-4382-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 50101** 

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

Prep Batch: 49804

-	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U F1	0.0998	0.06295	F1	mg/Kg		63	70 - 130	
Toluene	<0.00199	U F1	0.0998	0.06931	F1	mg/Kg		69	70 - 130	

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Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

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

Lab Sample ID: 890-4382-A-1-D MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 50101** Prep Batch: 49804

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U F1	0.0998	0.06579	F1	mg/Kg		66	70 - 130	
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1355	F1	mg/Kg		68	70 - 130	
o-Xylene	<0.00199	U F1	0.0998	0.06857	F1	mg/Kg		69	70 - 130	

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 108 70 - 130 1,4-Difluorobenzene (Surr) 70 - 130 88

Lab Sample ID: 890-4382-A-1-E MSD

**Matrix: Solid** Analysis Detale, F0404

								Prep E	satcn: 4	19804
Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
<0.00199	U F1	0.100	0.06855	F1	mg/Kg		68	70 - 130	9	35
<0.00199	U F1	0.100	0.06527	F1	mg/Kg		65	70 - 130	6	35
<0.00199	U F1	0.100	0.05475	F1	mg/Kg		55	70 - 130	18	35
<0.00398	U F1	0.201	0.1098	F1	mg/Kg		55	70 - 130	21	35
<0.00199	U F1	0.100	0.05678	F1	mg/Kg		57	70 - 130	19	35
	Result <0.00199 <0.00199 <0.00199 <0.00398	Sample   Sample	Result         Qualifier         Added           <0.00199	Result         Qualifier         Added         Result           <0.00199	Result         Qualifier         Added         Result         Qualifier           <0.00199	Result         Qualifier         Added         Result         Qualifier         Unit           <0.00199	Result         Qualifier         Added         Result         Qualifier         Unit         D           <0.00199	Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec           <0.00199	Sample Result Result Qualifier         Added Added Result Qualifier         Qualifier Unit Unit Unit Qualifier         D WRec Limits           <0.00199 U F1	Result         Qualifier         Added         Result         Qualifier         Unit         D         %Rec         Limits         RPD           <0.00199

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
1,4-Difluorobenzene (Surr)	91		70 - 130

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

Lab Sample ID: MB 880-49658/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA Prep Batch: 49658 **Analysis Batch: 49689** 

	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		03/27/23 16:18	03/28/23 09:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/27/23 16:18	03/28/23 09:38	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 16:18	03/28/23 09:38	1

	MB MB				
Surrogate	%Recovery Qualifi	ier Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112	70 - 130	03/27/23 16:18	03/28/23 09:38	1
o-Terphenyl	137 S1+	70 - 130	03/27/23 16:18	03/28/23 09:38	1

Lab Sample ID: LCS 880-49658/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** 

**Analysis Batch: 49689** Prep Batch: 49658 LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 789.1 79 70 - 130 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1895 \*+ mg/Kg 189 70 - 130 C10-C28)

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**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA

Prep Type: Total/NA

Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

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

Lab Sample ID: LCS 880-49658/2-A

Lab Sample ID: LCSD 880-49658/3-A

Lab Sample ID: 890-4382-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 49689** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 49658

LCS LCS %Recovery Qualifier

Surrogate Limits 1-Chlorooctane 125 70 - 130 o-Terphenyl 152 S1+ 70 - 130

Client Sample ID: Lab Control Sample Dup

**Prep Type: Total/NA** 

**Matrix: Solid Analysis Batch: 49689** 

Prep Batch: 49658 %Rec RPD

LCSD LCSD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 833.3 mg/Kg 83 70 - 130 5 20 (GRO)-C6-C10 1000 Diesel Range Organics (Over 1901 \*+ mg/Kg 190 70 - 130 0 20

C10-C28)

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	134	S1+	70 - 130
o-Terphenyl	151	S1+	70 - 130

**Client Sample ID: Matrix Spike** 

**Prep Type: Total/NA** 

Prep Batch: 49658

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec <49.9 U Gasoline Range Organics 998 1134 mg/Kg 114 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*+ 998 1240 mg/Kg 124 70 - 130

C10-C28)

**Matrix: Solid** 

**Analysis Batch: 49689** 

MS MS Surrogate %Recovery Qualifier

Lab Sample ID: 890-4382-A-1-C MSD

Limits 1-Chlorooctane 70 - 130 112 o-Terphenyl 120 70 - 130

**Client Sample ID: Matrix Spike Duplicate** 

Prep Type: Total/NA Prep Batch: 49658

**Analysis Batch: 49689** Sample Sample Spike MSD MSD %Rec **RPD** 

Result Qualifier Added Result Qualifier Limits **RPD** Limit Analyte Unit %Rec mg/Kg <49.9 U 997 995.1 100 70 - 130 13 20 Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*+ 997 1150 mg/Kg 115 70 - 130 8 20

C10-C28)

**Matrix: Solid** 

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	112		70 - 130

Project/Site: JRU 21 SWD Fire

Client: Ensolum

Job ID: 890-4380-1

**Prep Type: Soluble** 

**Client Sample ID: Matrix Spike** 

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Matrix Spike Duplicate** 

SDG: 03C1558189

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49876/1-A

**Matrix: Solid** 

**Analysis Batch: 50035** 

MB MB

Analyte Result Qualifier RL Unit D Analyzed Dil Fac Prepared 5.00 03/31/23 19:50 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-49876/2-A

**Matrix: Solid** 

**Analysis Batch: 50035** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 256.8 90 - 110 mg/Kg 103

Lab Sample ID: LCSD 880-49876/3-A

**Matrix: Solid** 

**Analysis Batch: 50035** 

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Limits **RPD** Limit Unit %Rec Chloride 250 257.2 103 90 - 110 20 mg/Kg

Lab Sample ID: 890-4371-A-8-E MS

**Matrix: Solid** 

**Analysis Batch: 50035** 

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 89.2 249 336.9 90 - 110 mg/Kg

Lab Sample ID: 890-4371-A-8-F MSD

**Matrix: Solid** 

**Analysis Batch: 50035** 

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 89.2 249 335.4 99 20 mg/Kg 90 - 110 0

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-4380-1

 Project/Site: JRU 21 SWD Fire
 SDG: 03C1558189

### **GC VOA**

### Prep Batch: 49804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Total/NA	Solid	5035	
890-4380-2	SS02	Total/NA	Solid	5035	
MB 880-49804/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### **Analysis Batch: 50101**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Total/NA	Solid	8021B	49804
890-4380-2	SS02	Total/NA	Solid	8021B	49804
MB 880-49804/5-A	Method Blank	Total/NA	Solid	8021B	49804
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	8021B	49804
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49804
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	49804
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49804

### **Analysis Batch: 50227**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Total/NA	Solid	Total BTEX	
890-4380-2	SS02	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 49658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Total/NA	Solid	8015NM Prep	
890-4380-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### **Analysis Batch: 49689**

<b>Lab Sample ID</b> 890-4380-1	Client Sample ID SS01	Prep Type Total/NA	Matrix Solid	Method 8015B NM	Prep Batch 49658
890-4380-2	SS02	Total/NA	Solid	8015B NM	49658
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015B NM	49658
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49658
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49658
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49658
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49658

### **Analysis Batch: 49856**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Total/NA	Solid	8015 NM	
890-4380-2	SS02	Total/NA	Solid	8015 NM	

## **QC Association Summary**

 Client: Ensolum
 Job ID: 890-4380-1

 Project/Site: JRU 21 SWD Fire
 SDG: 03C1558189

## HPLC/IC

#### Leach Batch: 49876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Soluble	Solid	DI Leach	
890-4380-2	SS02	Soluble	Solid	DI Leach	
MB 880-49876/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4371-A-8-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4371-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 50035**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4380-1	SS01	Soluble	Solid	300.0	49876
890-4380-2	SS02	Soluble	Solid	300.0	49876
MB 880-49876/1-A	Method Blank	Soluble	Solid	300.0	49876
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	300.0	49876
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49876
890-4371-A-8-E MS	Matrix Spike	Soluble	Solid	300.0	49876
890-4371-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49876

**Eurofins Carlsbad** 

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Job ID: 890-4380-1 SDG: 03C1558189

Project/Site: JRU 21 SWD Fire **Client Sample ID: SS01** 

Client: Ensolum

Lab Sample ID: 890-4380-1

**Matrix: Solid** 

Date Collected: 03/21/23 11:10 Date Received: 03/21/23 15:45

	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	49804	03/29/23 10:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50101	04/03/23 03:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50227	04/03/23 15:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			49856	03/29/23 14:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	49658	03/27/23 16:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49689	03/28/23 20:38	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50035	03/31/23 20:34	SMC	EET MID

Lab Sample ID: 890-4380-2

**Matrix: Solid** 

Date Collected: 03/21/23 11:20 Date Received: 03/21/23 15:45

**Client Sample ID: SS02** 

	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	49804	03/29/23 10:03	MNR	EET MIC
Total/NA	Analysis	8021B		1	5 mL	5 mL	50101	04/03/23 04:15	MNR	EET MIC
Total/NA	Analysis	Total BTEX		1			50227	04/03/23 15:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			49856	03/29/23 14:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	49658	03/27/23 16:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49689	03/28/23 20:59	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50035	03/31/23 20:48	SMC	EET MID

**Laboratory References:** 

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

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-4380-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

## **Laboratory: Eurofins Midland**

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

Authority		ogram	Identification Number	Expiration Date	
Texas	NE	ELAP	T104704400-22-25	06-30-23	
The following analyte:	s are included in this rend	ort but the laboratory is r	not certified by the governing authority.	This list may include analytes for w	
the agency does not	•	ore, but the laboratory is i	lot certified by the governing authority.	This list may include analytes for w	
	•	Matrix	Analyte	This list may include analytes for w	
the agency does not o	offer certification.	•	, , ,	This list may include analytes for w	

## **Method Summary**

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4380-1

SDG: 03C1558189

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
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
3015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

#### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

Released to Imaging: 9/28/2023 9:42:29 AM

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## **Sample Summary**

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4380-1

SDG: 03C1558189

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4380-1	SS01	Solid	03/21/23 11:10	03/21/23 15:45	0.5
890-4380-2	SS02	Solid	03/21/23 11:20	03/21/23 15:45	0.5

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

Work Order No:

Preservative Codes	ANALYSIS REQUEST
Deliverables: EDD   Abar   Cure:	N. W.
ADART Other	1
Reporting: Level II 🔲 Level III 🔲 PST/UST 📗 TRRP 🔲 Level IV 📗	
State of Project:	reene St   s
Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund ☐	
Work Order Comments	+ Green
www.xenco.com Page of	
	M (575) 988-3199

202	Revised Date: 08/25/2020 Rev. 2020 2		0					8
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		ons rol <u>sgotlated.</u>	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated	ny to Eurofins Xenco, its affiliates and i or expenses incurred by the client if htted to Eurofins Xenco, but not anal	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 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 circumstance 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 up	nment of samples constitut ne cost of samples and shal will be applied to each proj	re of this document and relinquis fins Xenco will be liable only for t co. A minimum charge of \$85.00	Notice: Signatu of service. Euro of Eurofins Xen
	J V Zn '7471	Ni K Se Ag SiO <sub>2</sub> Na Sr Tl Sn U V Zr U Hg: 1631/245.1/7470/7471	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 <sub>2</sub> Na Sr Tl Sn U V Zn 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	Al Sb As Ba Be B Cd CRA Sb As Ba Be Cd (	8RCRA 13PPM Texas 11 TCLP / SPLP 6010 : 8R	200.8 / 6020: tal(s) to be analyzed	Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	Total 20 Circle Me
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L						1		

NaOH+Ascorbic Acid: SAPC

Sample Comments

Na2S2O3: NaSO 3

NaHSO 4: NABIS H3PO4: HP

Zn Acetate+NaOH: Zn

NAPP 1305452388

incident #:

Cost Center

00192629

Total Containers:

Sample Identification

Matrix

Sampled

Time Sampled

Depth

Comp

Cont # of

Grab/

BTEX

TPH

Chlorides

890-4380 Chain of Custody

Date

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3/21/23

01 120

0.5

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SSOA

Sample Custody Seals: Cooler Custody Seals: Samples Received Intact:

Yes No / N/A

Correction Factor: Thermometer ID:

Corrected Temperature: Temperature Reading:

No

SAMPLE RECEIPT

Temp Blank:

Les No

Wet Ice:

(res) No

**Parameters** 

10m-01

No

Sampler's Name:

oject Location:

32.36881-103.86730 Meredith Roberts

Due Date:

Routine

Rush

Code

Turn Around

TAT starts the day received by the lab, if received by 4:30pm

HCL: HC

Cool: Cool None: NO

H2SO 4: H2

NaOH: Na NH: ONH MeOH: Me DI Water: H<sub>2</sub>O

030-1558189 Ru 21 SWD Fire 989.854.0852

Project Number:

oject Name:

City, State ZIP:

Carisbad, NM 88220

Email:

bbe 1,11@ensolu

3122 Nati Parks Ha

Address:

3104 E aristad

XTO Charret

Company Name: Bill to: (if different)

City, State ZIP:

pusolum 1000

ompany Name: ddress:

roject Manager:

Ben

Belin

Xenco

**Environment Testing** 

## **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-4380-1 SDG Number: 03C1558189

Login Number: 4380 **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: 890-4380-1

 SDG Number: 03C1558189

List Source: Eurofins Midland
List Number: 2
List Creation: 03/23/23 10:27 AM

Creator: Teel, Brianna

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

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**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Ben Belill Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 4/3/2023 4:04:16 PM

# **JOB DESCRIPTION**

JRU 21 SWD Fire SDG NUMBER 03C1558189

## **JOB NUMBER**

890-4379-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 4/3/2023 4:04:16 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Client: Ensolum
Project/Site: JRU 21 SWD Fire
Laboratory Job ID: 890-4379-1
SDG: 03C1558189

# **Table of Contents**

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	19

4

6

8

10

12

13

14

## **Definitions/Glossary**

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** 

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

GC Semi VOA

Qualifier **Qualifier Description** 

\*+ LCS and/or LCSD is outside acceptance limits, high biased. S1+ Surrogate recovery exceeds control limits, high biased. U 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 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 **Practical Quantitation Limit** PQL

**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

Released to Imaging: 9/28/2023 9:42:29 AM

#### Case Narrative

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4379-1

SDG: 03C1558189

Job ID: 890-4379-1

**Laboratory: Eurofins Carlsbad** 

**Narrative** 

Job Narrative 890-4379-1

#### Receipt

The sample was received on 3/21/2023 3:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS03 (890-4379-1).

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-49804 and analytical batch 880-50101 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-49658 and analytical batch 880-49689 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-49658/2-A) and (LCSD 880-49658/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-49658 and analytical batch 880-49689 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.

Job ID: 890-4379-1 SDG: 03C1558189

Client: Ensolum Project/Site: JRU 21 SWD Fire **Client Sample ID: SS03** 

Lab Sample ID: 890-4379-1

Date Collected: 03/21/23 11:15 Date Received: 03/21/23 15:45

Matrix: Solid

Sample Depth: 0.5

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/29/23 10:03	04/03/23 03:33	1
Toluene	< 0.00199	U	0.00199	mg/Kg		03/29/23 10:03	04/03/23 03:33	1
Ethylbenzene	< 0.00199	U	0.00199	mg/Kg		03/29/23 10:03	04/03/23 03:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/29/23 10:03	04/03/23 03:33	1
o-Xylene	< 0.00199	U	0.00199	mg/Kg		03/29/23 10:03	04/03/23 03:33	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/29/23 10:03	04/03/23 03:33	,
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	119		70 - 130			03/29/23 10:03	04/03/23 03:33	1
1,4-Difluorobenzene (Surr)	89		70 - 130			03/29/23 10:03	04/03/23 03:33	1
Method: TAL SOP Total BTEX	- Total BTE	X Calculat	ion					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			04/03/23 15:20	1
Method: SW846 8015 NM - Did	esel Range (	Organics (	DRO) (GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			03/29/23 14:59	1
Method: SW846 8015B NM - D	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		03/27/23 16:18	03/28/23 20:16	1
Diesel Range Organics (Over C10-C28)	<49.8	U *+	49.8	mg/Kg		03/27/23 16:18	03/28/23 20:16	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		03/27/23 16:18	03/28/23 20:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	102		70 - 130			03/27/23 16:18	03/28/23 20:16	1
o-Terphenyl	111		70 - 130			03/27/23 16:18	03/28/23 20:16	1
Method: EPA 300.0 - Anions,			Soluble					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	584		5.01	mg/Kg			03/26/23 19:58	1

## **Surrogate Summary**

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

Method: 8021B - Volatile Organic Compounds (GC)

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

			Perce	nt Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4379-1	SS03	119	89	
890-4382-A-1-D MS	Matrix Spike	108	88	
890-4382-A-1-E MSD	Matrix Spike Duplicate	97	91	
LCS 880-49804/1-A	Lab Control Sample	100	92	
LCSD 880-49804/2-A	Lab Control Sample Dup	96	90	
MB 880-49804/5-A	Method Blank	118	130	
Surrogate Legend				
BFB = 4-Bromofluorob	enzene (Surr)			
DFBZ = 1.4-Difluorobe	enzene (Surr)			

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

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

			Percent S	Surrogate Recovery (Acceptance Limits)
		1001	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4379-1	SS03	102	111	
890-4382-A-1-B MS	Matrix Spike	112	120	
890-4382-A-1-C MSD	Matrix Spike Duplicate	101	112	
LCS 880-49658/2-A	Lab Control Sample	125	152 S1+	
LCSD 880-49658/3-A	Lab Control Sample Dup	134 S1+	151 S1+	
MB 880-49658/1-A	Method Blank	112	137 S1+	

OTPH = o-Terphenyl

1CO = 1-Chlorooctane

Client: Ensolum Project/Site: JRU 21 SWD Fire

Job ID: 890-4379-1 SDG: 03C1558189

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

Lab Sample ID: MB 880-49804/5-A

**Matrix: Solid** 

**Analysis Batch: 50101** 

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

Prep Batch: 49804

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg	_	03/29/23 10:03	04/02/23 20:16	1
Toluene	<0.00200	U	0.00200	mg/Kg	(	03/29/23 10:03	04/02/23 20:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg	(	03/29/23 10:03	04/02/23 20:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg	(	03/29/23 10:03	04/02/23 20:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg	(	03/29/23 10:03	04/02/23 20:16	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118	70 - 130	03/29/23 10:03	04/02/23 20:16	1
1,4-Difluorobenzene (Surr)	130	70 - 130	03/29/23 10:03	04/02/23 20:16	1

Lab Sample ID: LCS 880-49804/1-A

Matrix: Solid

**Analysis Batch: 50101** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 49804

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1038		mg/Kg		104	70 - 130	
Toluene	0.100	0.1085		mg/Kg		109	70 - 130	
Ethylbenzene	0.100	0.09943		mg/Kg		99	70 - 130	
m-Xylene & p-Xylene	0.200	0.2023		mg/Kg		101	70 - 130	
o-Xylene	0.100	0.1010		mg/Kg		101	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

Lab Sample ID: LCSD 880-49804/2-A

Matrix: Solid

**Analysis Batch: 50101** 

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

Prep Batch: 49804

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.09513		mg/Kg		95	70 - 130	9	35
Toluene	0.100	0.1008		mg/Kg		101	70 - 130	7	35
Ethylbenzene	0.100	0.09340		mg/Kg		93	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1907		mg/Kg		95	70 - 130	6	35
o-Xylene	0.100	0.09528		mg/Kg		95	70 - 130	6	35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: 890-4382-A-1-D MS

**Matrix: Solid** 

**Analysis Batch: 50101** 

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

Prep Batch: 49804

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U F1	0.0998	0.06295	F1	mg/Kg		63	70 - 130	
Toluene	< 0.00199	U F1	0.0998	0.06931	F1	mg/Kg		69	70 - 130	

Prep Batch: 49804

Prep Type: Total/NA

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

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

Lab Sample ID: 890-4382-A-1-D MS **Client Sample ID: Matrix Spike Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 50101** 

MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Ethylbenzene <0.00199 U F1 0.0998 0.06579 F1 mg/Kg 66 70 - 130 m-Xylene & p-Xylene <0.00398 U F1 0.200 0.1355 F1 mg/Kg 68 70 - 130 0.0998 0.06857 F1 69 70 - 130 o-Xylene <0.00199 UF1 mg/Kg

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 108 1,4-Difluorobenzene (Surr) 88 70 - 130

Lab Sample ID: 890-4382-A-1-E MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

**Analysis Batch: 50101** 

Prep Batch: 49804 Sample Sample Spike MSD MSD %Rec **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit <0.00199 UF1 0.100 0.06855 F1 68 70 - 130 9 35 Benzene mg/Kg Toluene 0.100 0.06527 F1 65 70 - 130 35 <0.00199 UF1 mg/Kg 6 55 Ethylbenzene <0.00199 UF1 0.100 0.05475 F1 mg/Kg 70 - 130 18 35 m-Xylene & p-Xylene <0.00398 UF1 0.201 0.1098 F1 55 70 - 130 21 35 mq/Kq 0.100 0.05678 F1 57 70 - 130 35 o-Xylene <0.00199 U F1 mg/Kg 19

MSD MSD %Recovery Surrogate Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 97 1,4-Difluorobenzene (Surr) 91 70 - 130

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

Lab Sample ID: MB 880-49658/1-A **Client Sample ID: Method Blank Matrix: Solid Prep Type: Total/NA** Prep Batch: 49658

**Analysis Batch: 49689** 

MB MB Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Gasoline Range Organics <50.0 U 50.0 03/27/23 16:18 03/28/23 09:38 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg 03/27/23 16:18 03/28/23 09:38 C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 mg/Kg 03/27/23 16:18 03/28/23 09:38

MB MB Surrogate %Recovery Qualifier Limits Prepared Dil Fac Analyzed 1-Chlorooctane 70 - 130 03/27/23 16:18 03/28/23 09:38 112

70 - 130 03/27/23 16:18 03/28/23 09:38 o-Terphenyl 137 S1+

Lab Sample ID: LCS 880-49658/2-A **Matrix: Solid** 

**Analysis Batch: 49689** 

Prep Batch: 49658 LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits 1000 789.1 79 70 - 130 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 1895 \*+ mg/Kg 189 70 - 130 C10-C28)

**Eurofins Carlsbad** 

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

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

Lab Sample ID: LCS 880-49658/2-A

Lab Sample ID: LCSD 880-49658/3-A

Lab Sample ID: 890-4382-A-1-B MS

**Matrix: Solid** 

**Analysis Batch: 49689** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 49658

LCS LCS

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 125 70 - 130 o-Terphenyl 152 S1+ 70 - 130

**Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

**Analysis Batch: 49689** 

**Prep Type: Total/NA** 

Prep Batch: 49658

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Gasoline Range Organics 1000 833.3 mg/Kg 83 70 - 130 5 20 (GRO)-C6-C10 1000 Diesel Range Organics (Over 1901 \*+ mg/Kg 190 70 - 130 0 20

C10-C28)

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits		
1-Chlorooctane	134	S1+	70 - 130		
o-Terphenyl	151	S1+	70 - 130		

**Client Sample ID: Matrix Spike** 

**Prep Type: Total/NA** 

Prep Batch: 49658

Sample Sample Spike MS MS %Rec Result Qualifier Added Result Qualifier Limits Analyte Unit D %Rec <49.9 U Gasoline Range Organics 998 1134 mg/Kg 114 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*+ 998 1240 mg/Kg 124 70 - 130

C10-C28)

**Matrix: Solid** 

**Analysis Batch: 49689** 

MS MS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 112 o-Terphenyl 120 70 - 130

Lab Sample ID: 890-4382-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate** 

**Matrix: Solid** 

**Analysis Batch: 49689** 

Prep Type: Total/NA

Prep Batch: 49658 %Rec **RPD** 

Sample Sample Spike MSD MSD Result Qualifier Added Result Qualifier Limits **RPD** Limit Analyte Unit %Rec mg/Kg <49.9 U 997 995.1 100 70 - 130 13 20 Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*+ 997 1150 mg/Kg 115 70 - 130 8 20

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	112		70 - 130

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

**Client Sample ID: Matrix Spike Duplicate** 

**Prep Type: Soluble** 

**Client Sample ID: Matrix Spike** 

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49538/1-A

**Matrix: Solid** 

**Analysis Batch: 49539** 

MB MB

Analyte Result Qualifier RL Unit D Analyzed Dil Fac Prepared 5.00 03/26/23 18:18 Chloride <5.00 U mg/Kg

Lab Sample ID: LCS 880-49538/2-A

**Matrix: Solid** 

**Analysis Batch: 49539** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits Chloride 250 258.5 90 - 110 mg/Kg 103

Lab Sample ID: LCSD 880-49538/3-A

**Matrix: Solid** 

**Analysis Batch: 49539** 

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Limits **RPD** Limit Unit %Rec Chloride 250 261.2 104 90 - 110 20 mg/Kg

Lab Sample ID: 880-26283-A-13-B MS

**Matrix: Solid** 

**Analysis Batch: 49539** 

Spike MS MS %Rec Sample Sample Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Chloride 251 278.2 90 - 110 18.4 mg/Kg 104

Lab Sample ID: 880-26283-A-13-C MSD

**Matrix: Solid** 

**Analysis Batch: 49539** 

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 18.4 251 284.1 106 90 - 110 2 20 mg/Kg

# **QC Association Summary**

Client: Ensolum
Project/Site: JRU 21 SWD Fire

Job ID: 890-4379-1 SDG: 03C1558189

**GC VOA** 

Prep Batch: 49804

<b>Lab Sample ID</b> 890-4379-1	Client Sample ID SS03	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-49804/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## **Analysis Batch: 50101**

<b>Lab Sample ID</b> 890-4379-1	Client Sample ID SS03	Prep Type Total/NA	Matrix Solid	Method 8021B	Prep Batch 49804
MB 880-49804/5-A	Method Blank	Total/NA	Solid	8021B	49804
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	8021B	49804
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49804
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	49804
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49804

#### **Analysis Batch: 50226**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4379-1	SS03	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Prep Batch: 49658

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4379-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 49689

<b>Lab Sample ID</b> 890-4379-1	Client Sample ID SS03	Prep Type Total/NA	Matrix Solid	Method 8015B NM	Prep Batch 49658
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015B NM	49658
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49658
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49658
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49658
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49658

#### **Analysis Batch: 49855**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4379-1	SS03	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 49538

<b>Lab Sample ID</b> 890-4379-1	Client Sample ID SS03	Prep Type Soluble	Matrix Solid	Method DI Leach	Prep Batch
MB 880-49538/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49538/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49538/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

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## **QC Association Summary**

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

## **HPLC/IC (Continued)**

#### Leach Batch: 49538 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26283-A-13-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-26283-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 49539**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4379-1	SS03	Soluble	Solid	300.0	49538
MB 880-49538/1-A	Method Blank	Soluble	Solid	300.0	49538
LCS 880-49538/2-A	Lab Control Sample	Soluble	Solid	300.0	49538
LCSD 880-49538/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49538
880-26283-A-13-B MS	Matrix Spike	Soluble	Solid	300.0	49538
880-26283-A-13-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49538

## **Lab Chronicle**

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

**Client Sample ID: SS03** Lab Sample ID: 890-4379-1

Date Collected: 03/21/23 11:15 **Matrix: Solid** Date Received: 03/21/23 15:45

	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	49804	03/29/23 10:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50101	04/03/23 03:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50226	04/03/23 15:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			49855	03/29/23 14:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	49658	03/27/23 16:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49689	03/28/23 20:16	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	49538	03/26/23 10:33	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	49539	03/26/23 19:58	SMC	EET MID

#### **Laboratory References:**

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

## **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-4379-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

## **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	T104704400-22-25	06-30-23
The following analyte:	s are included in this rend	ort but the laboratory is r	not certified by the governing authority.	This list may include analytes for w
the agency does not	•	ore, but the laboratory is i	lot certified by the governing authority.	This list may include analytes for w
	•	Matrix	Analyte	This list may include analytes for w
the agency does not o	offer certification.	•	, , ,	This list may include analytes for w

## **Method Summary**

Client: Ensolum

Method

Total BTEX

8015 NM

8015B NM

8015NM Prep

DI Leach

300.0

5035

8021B

Project/Site: JRU 21 SWD Fire

Job ID: 890-4379-1

SDG: 03C1558189

Protocol	Laboratory
SW846	EET MID
TAL SOP	EET MID
SW846	EET MID
SW846	EET MID
EPA	EET MID
SW846	EET MID

EET MID

**EET MID** 

SW846

**ASTM** 

**Protocol References:** 

ASTM = ASTM International

EPA = US Environmental Protection Agency

Microextraction

**Method Description** 

**Total BTEX Calculation** 

Volatile Organic Compounds (GC)

Diesel Range Organics (DRO) (GC)

Diesel Range Organics (DRO) (GC)

Deionized Water Leaching Procedure

Anions, Ion Chromatography

Closed System Purge and Trap

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 21 SWD Fire

Job ID: 890-4379-1

SDG: 03C1558189

Lab Sample ID Client Sample ID Collected Matrix Received Depth 890-4379-1 03/21/23 11:15 03/21/23 15:45 0.5 SS03 Solid

Page 17 of 20

Circle Method(s) and Metal(s) to be analyzed

Total 200.7 / 6010

200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B

TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

Cd Ca

Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn

Hg: 1631 / 245.1 / 7470 / 7471

Maberts (Oles solum. w

162926100 Cinter. eurofins

Xenco

**Environment Testing** 

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

Work Order No:

7	X	TF	The green of the state of the s	150da, INIVI (3/3) 300°3 133
			Entry Greene St State of Program: State of Projecting: ANALYSIS REQUEST  ANALYSIS REQUEST  ANALYSIS REQUEST  B90-4379 Chain of Custody	700.2122
			rogram: itate of Proj eporting: Deliverables	
NAPP2305452388	Incident #:	Sample Comments	www.xenco.com Page of Work Order Comments    Work Order Comments	
	Pag	je 18	of 20	

SAMPLE RECEIPT

Temp Blank: Yes No

(Yes )No

Wet Ice:

(Yes No

**Parameters** 

Cooler Custody Seals:

amples Received Intact:

Sample Custody Seals:

Yes No Yes No NA

Corrected Temperature:

Temperature Reading: Correction Factor: Thermometer ID:

Sample Identification

Matrix

Sampled

Time Sampled = 15

> Comp Grab/

Cont # of

BTEX

Chiondes

3/21/23

0.5 Depth

5503

Sampler's Name:

roject Location:

32.36881-103.86730 Meredith Loberty

Due Date:

Routine

Rush

Turn Around

TAT starts the day received by the lab, if received by 4:30pm

Project Number:

roject-Name:

JAN 21 SWD FITE

0301558189

City, State ZIP:

ddress:

3120 NATI

Parks Hwy

thisolum, LL

Carlsbad, NM 88220 981.854.0852

Email:

bbeding ensc

City, State ZIP:

3:04 क्राड

Ben Belill

Bill to: (if different) Company Name:

Company Name: roject Manager:

hone:

		5			
					0 1
			3/21/23 1545	Human Stirt 3/21/23 1545	My MOUD!
Received by: (Signature) Date/Time	Received by	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-4379-1

SDG Number: 03C1558189

Login Number: 4379 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	

Page 19 of 20 4/3/2023

## **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-4379-1

 SDG Number: 03C1558189

List Source: Eurofins Midland
List Number: 2
List Creation: 03/27/23 08:32 AM

Creator: Kramer, Jessica

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

Released to Imaging: 9/28/2023 9:42:29 AM

Page 20 of 20

4/3/2023

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<6mm (1/4").

**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Ben Belill Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 4/3/2023 3:13:50 PM

# **JOB DESCRIPTION**

JRU 21 SWD Fire SDG NUMBER 03C1558189

## **JOB NUMBER**

890-4378-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

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

## **Authorization**

Generated 4/3/2023 3:13:50 PM

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

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of Companies

Page 2 of 20

4/3

Client: Ensolum
Project/Site: JRU 21 SWD Fire
Laboratory Job ID: 890-4378-1
SDG: 03C1558189

**Table of Contents** 

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
Surrogate Summary	7
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	14
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Chacklists	10

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#### **Definitions/Glossary**

Job ID: 890-4378-1 Client: Ensolum Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

**Qualifiers** 

**GC VOA** 

Qualifier **Qualifier Description** MS and/or MSD recovery exceeds control limits.

U Indicates the analyte was analyzed for but not detected.

**GC Semi VOA** 

Qualifier **Qualifier Description** 

\*+ LCS and/or LCSD is outside acceptance limits, high biased. 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

Project/Site: JRU 21 SWD Fire

Job ID: 890-4378-1

SDG: 03C1558189

Job ID: 890-4378-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-4378-1

#### Receipt

The sample was received on 3/21/2023 3:45 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

#### **Receipt Exceptions**

The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-4378-1).

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-49804 and analytical batch 880-50101 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-49658 and analytical batch 880-49689 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-49658/2-A) and (LCSD 880-49658/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The laboratory control sample (LCS) associated with preparation batch 880-49658 and analytical batch 880-49689 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: 890-4378-1
Project/Site: JRU 21 SWD Fire SDG: 03C1558189

Client Sample ID: SS04

Lab Sample ID: 890-4378-1

Date Collected: 03/21/23 10:50 Matrix: Solid
Date Received: 03/21/23 15:45

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
Toluene	<0.00198	U	0.00198	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		03/29/23 10:03	04/03/23 03:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130			03/29/23 10:03	04/03/23 03:13	1
1,4-Difluorobenzene (Surr)	82		70 - 130			03/29/23 10:03	04/03/23 03:13	1
Method: TAL SOP Total BTEX -	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			04/03/23 15:20	1
Analyte	Result							
<u>·</u>		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9		49.9	mg/Kg	<u>D</u>	Prepared	Analyzed 03/29/23 14:59	Dil Fac
<u>·</u>	<49.9	U	49.9		<u>D</u>	Prepared		Dil Fac
Total TPH	<49.9	U	49.9		D	Prepared Prepared		Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics	<49.9	Unics (DRO)	49.9 (GC)	mg/Kg			03/29/23 14:59	1
Total TPH  Method: SW846 8015B NM - Die 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	03/29/23 14:59  Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	<49.9 sel Range Orga Result <49.9 <49.9	nics (DRO) Qualifier U  U *+	(GC) RL 49.9 49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/27/23 16:18 03/27/23 16:18	03/29/23 14:59  Analyzed  03/28/23 19:55  03/28/23 19:55	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	sel Range Orga Result <49.9	nics (DRO) Qualifier U  U *+	(GC) RL 49.9	mg/Kg  Unit  mg/Kg		Prepared 03/27/23 16:18	03/29/23 14:59  Analyzed  03/28/23 19:55	Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10	\$\int \text{49.9}\$ \$\int \text{Range Orga} \text{Result}\$ \$\int \text{49.9}\$ \$\int \text{49.9}\$ \$\int \text{49.9}\$ \$\int \text{Recovery}\$	Oualifier U *+	49.9  (GC)  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/27/23 16:18 03/27/23 16:18 03/27/23 16:18 Prepared	03/29/23 14:59  Analyzed 03/28/23 19:55 03/28/23 19:55 03/28/23 19:55 Analyzed	Dil Fac
Total TPH  Method: SW846 8015B NM - Die 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 <49.9	Oualifier U *+	49.9  (GC)  RL  49.9  49.9  49.9	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/27/23 16:18 03/27/23 16:18	03/29/23 14:59  Analyzed 03/28/23 19:55 03/28/23 19:55	1 Dil Fac
Total TPH  Method: SW846 8015B NM - Die Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	\$\int \text{49.9}\$ \$\int \text{Range Orga} \text{Result}\$ \$\int \text{49.9}\$ \$\int \text{49.9}\$ \$\int \text{49.9}\$ \$\int \text{Recovery}\$	Oualifier U *+	49.9  (GC)  RL 49.9  49.9  49.9  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 03/27/23 16:18 03/27/23 16:18 03/27/23 16:18 Prepared	03/29/23 14:59  Analyzed 03/28/23 19:55 03/28/23 19:55 03/28/23 19:55 Analyzed	Dil Face 1 1 1 Dil Face
Total TPH  Method: SW846 8015B NM - Die 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  **Recovery 89 <99	Oualifier U*+ 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 03/27/23 16:18 03/27/23 16:18 03/27/23 16:18  Prepared 03/27/23 16:18	03/29/23 14:59  Analyzed 03/28/23 19:55 03/28/23 19:55  Analyzed 03/28/23 19:55	Dil Fac
Total TPH  Method: SW846 8015B NM - Die 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 \text{Range Orgal}{\text{Result}}\$  \$\sel \text{Result}\$  \$\sel \text{49.9}\$  \$\sel \text{Recovery}\$  \$\text{89}\$  \$\text{99}\$  \$\text{1 Chromatograp}\$	Oualifier U*+ 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 03/27/23 16:18 03/27/23 16:18 03/27/23 16:18  Prepared 03/27/23 16:18	03/29/23 14:59  Analyzed 03/28/23 19:55 03/28/23 19:55  Analyzed 03/28/23 19:55	Dil Fac

## **Surrogate Summary**

Client: Ensolum Job ID: 890-4378-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

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)	
890-4378-1	SS04	116	82	
890-4382-A-1-D MS	Matrix Spike	108	88	
890-4382-A-1-E MSD	Matrix Spike Duplicate	97	91	
LCS 880-49804/1-A	Lab Control Sample	100	92	
LCSD 880-49804/2-A	Lab Control Sample Dup	96	90	
MB 880-49804/5-A	Method Blank	118	130	
Surrogate Legend				
BFB = 4-Bromofluorobenz	zene (Surr)			
DFBZ = 1,4-Difluorobenze	ene (Surr)			

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

Matrix: Solid Prep Type: Total/NA

		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4378-1	SS04	89	99
890-4382-A-1-B MS	Matrix Spike	112	120
890-4382-A-1-C MSD	Matrix Spike Duplicate	101	112
LCS 880-49658/2-A	Lab Control Sample	125	152 S1+
LCSD 880-49658/3-A	Lab Control Sample Dup	134 S1+	151 S1+
MB 880-49658/1-A	Method Blank	112	137 S1+

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum

Job ID: 890-4378-1

SDG: 03C1558189

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

Lab Sample ID: MB 880-49804/5-A

**Matrix: Solid** Analysis Batch: 50101

Project/Site: JRU 21 SWD Fire

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49804

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/29/23 10:03	04/02/23 20:16	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/29/23 10:03	04/02/23 20:16	1

мв мв

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118	70 - 130	03/29/23 10:03	04/02/23 20:16	1
1,4-Difluorobenzene (Surr)	130	70 - 130	03/29/23 10:03	04/02/23 20:16	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 49804

Prep Batch: 49804

Lab Sample ID: LCS 880-49804/1-A Matrix: Solid

Analysis Batch: 50101

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1038	-	mg/Kg		104	70 - 130	
Toluene	0.100	0.1085		mg/Kg		109	70 - 130	
Ethylbenzene	0.100	0.09943		mg/Kg		99	70 - 130	
m-Xylene & p-Xylene	0.200	0.2023		mg/Kg		101	70 - 130	
o-Xylene	0.100	0.1010		mg/Kg		101	70 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
1,4-Difluorobenzene (Surr)	92		70 - 130

**Client Sample ID: Lab Control Sample Dup** 

**Matrix: Solid** 

Lab Sample ID: LCSD 880-49804/2-A

Analysis Batch: 50101

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.09513		mg/Kg		95	70 - 130	9	35	
Toluene	0.100	0.1008		mg/Kg		101	70 - 130	7	35	
Ethylbenzene	0.100	0.09340		mg/Kg		93	70 - 130	6	35	
m-Xylene & p-Xylene	0.200	0.1907		mg/Kg		95	70 - 130	6	35	
o-Xvlene	0 100	0.09528		ma/Ka		95	70 - 130	6	35	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
1.4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: 890-4382-A-1-D MS

**Matrix: Solid** 

Analysis Batch: 50101

Client San	nple ID: Matrix Spike
	Prep Type: Total/NA

Prep Batch: 49804

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00199	U F1	0.0998	0.06295	F1	mg/Kg		63	70 - 130	
Toluene	<0.00199	U F1	0.0998	0.06931	F1	mg/Kg		69	70 - 130	

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Page 8 of 20

Prep Batch: 49804

### **QC Sample Results**

Client: Ensolum Job ID: 890-4378-1 SDG: 03C1558189 Project/Site: JRU 21 SWD Fire

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

Lab Sample ID: 890-4382-A-1-D MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 50101

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00199	U F1	0.0998	0.06579	F1	mg/Kg		66	70 - 130	
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.1355	F1	mg/Kg		68	70 - 130	
o-Xylene	<0.00199	U F1	0.0998	0.06857	F1	mg/Kg		69	70 - 130	

MS MS

Surrogate	%Recovery Qu	ıalifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

Client Sample ID: Matrix Spike Duplicate Lab Sample ID: 890-4382-A-1-E MSD Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 50101									Prep	Batch:	49804
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U F1	0.100	0.06855	F1	mg/Kg		68	70 - 130	9	35
Toluene	<0.00199	U F1	0.100	0.06527	F1	mg/Kg		65	70 - 130	6	35
Ethylbenzene	<0.00199	U F1	0.100	0.05475	F1	mg/Kg		55	70 - 130	18	35
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1098	F1	mg/Kg		55	70 - 130	21	35
o-Xylene	< 0.00199	U F1	0.100	0.05678	F1	mg/Kg		57	70 - 130	19	35

MSD MSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	97	70 - 130
1,4-Difluorobenzene (Surr)	91	70 - 130

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

Lab Sample ID: MB 880-49658/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 49689

	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		03/27/23 16:18	03/28/23 09:38	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/27/23 16:18	03/28/23 09:38	1	
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/27/23 16:18	03/28/23 09:38	1	

MB MB

Surrogate	%Recovery Quali	ifier Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	112	70 - 130	03/27/23 16:18	03/28/23 09:38	1
o-Terphenyl	137 S1+	70 - 130	03/27/23 16:18	03/28/23 09:38	1

Lab Sample ID: LCS 880-49658/2-A

Matrix: Solid							Prep Typ	e: Total/NA
Analysis Batch: 49689							Prep Ba	tch: 49658
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	789.1		mg/Kg		79	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1895	*+	mg/Kg		189	70 - 130	
C10-C28)								

**Eurofins Carlsbad** 

**Client Sample ID: Lab Control Sample** 

Prep Batch: 49658

Client: Ensolum Job ID: 890-4378-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

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

LCS LCS

Lab Sample ID: LCS 880-49658/2-A **Matrix: Solid** 

Analysis Batch: 49689

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

Prep Batch: 49658

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	152	S1+	70 - 130

Lab Sample ID: LCSD 880-49658/3-A

Matrix: Solid

Analysis Batch: 49689

Client Sample ID: Lal	o Control Sample Dup
-----------------------	----------------------

Prep Type: Total/NA

Prep Batch: 49658

	s	oike	LCSD	LCSD				%Rec		RPD
Analyte	Ad	ded	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics		000	833.3		mg/Kg		83	70 - 130	5	20
(GRO)-C6-C10										
Diesel Range Organics (Over	1	000	1901	*+	mg/Kg		190	70 - 130	0	20
C10-C28)										

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	134	S1+	70 - 130
o-Terphenyl	151	S1+	70 - 130

Lab Sample ID: 890-4382-A-1-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

Analysis Batch: 49689

Prep Type: Total/NA

Prep Batch: 49658

	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	998	1134		mg/Kg		114	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U *+	998	1240		mg/Kg		124	70 - 130	

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	112		70 - 130
o-Terphenvl	120		70 <sub>-</sub> 130

Lab Sample ID: 890-4382-A-1-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 49689

Prep Type: Total/NA

Prep Batch: 49658

	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	997	995.1		mg/Kg		100	70 - 130	13	20
(GRO)-C6-C10											
Diesel Range Organics (Over	<49.9	U *+	997	1150		mg/Kg		115	70 - 130	8	20
C10-C28)											

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	112		70 - 130

**Eurofins Carlsbad** 

### QC Sample Results

Client: Ensolum Job ID: 890-4378-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-49876/1-A

**Matrix: Solid** 

Analysis Batch: 50035

Client Sample ID: Method Blank

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 03/31/23 19:50

мв мв

Lab Sample ID: LCS 880-49876/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 50035** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 256.8 mg/Kg 103 90 - 110

Lab Sample ID: LCSD 880-49876/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 50035

LCSD LCSD %Rec RPD Spike Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 257.2 mg/Kg 103 90 - 110

Lab Sample ID: 890-4371-A-8-E MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

Analysis Batch: 50035

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added Qualifier %Rec Result Unit Limits Chloride 89.2 249 336.9 90 - 110 mg/Kg

Lab Sample ID: 890-4371-A-8-F MSD

**Matrix: Solid** 

Analysis Batch: 50035

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 249 89.2 335.4 mg/Kg 99 90 - 110 20

**Eurofins Carlsbad** 

### **QC Association Summary**

Client: Ensolum

Job ID: 890-4378-1 Project/Site: JRU 21 SWD Fire SDG: 03C1558189

### **GC VOA**

### Prep Batch: 49804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Total/NA	Solid	5035	
MB 880-49804/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

### Analysis Batch: 50101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Total/NA	Solid	8021B	49804
MB 880-49804/5-A	Method Blank	Total/NA	Solid	8021B	49804
LCS 880-49804/1-A	Lab Control Sample	Total/NA	Solid	8021B	49804
LCSD 880-49804/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49804
890-4382-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	49804
890-4382-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	49804

### **Analysis Batch: 50225**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Total/NA	Solid	Total BTEX	

### **GC Semi VOA**

### Prep Batch: 49658

<b>Lab Sample ID</b> 890-4378-1	Client Sample ID SS04	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

### Analysis Batch: 49689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Total/NA	Solid	8015B NM	49658
MB 880-49658/1-A	Method Blank	Total/NA	Solid	8015B NM	49658
LCS 880-49658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	49658
LCSD 880-49658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	49658
890-4382-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	49658
890-4382-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	49658

### Analysis Batch: 49854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Total/NA	Solid	8015 NM	

### HPLC/IC

### Leach Batch: 49876

Γ					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Soluble	Solid	DI Leach	
MB 880-49876/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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Page 12 of 20

### **QC Association Summary**

Client: Ensolum Job ID: 890-4378-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

### **HPLC/IC** (Continued)

### Leach Batch: 49876 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4371-A-8-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4371-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### **Analysis Batch: 50035**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4378-1	SS04	Soluble	Solid	300.0	49876
MB 880-49876/1-A	Method Blank	Soluble	Solid	300.0	49876
LCS 880-49876/2-A	Lab Control Sample	Soluble	Solid	300.0	49876
LCSD 880-49876/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	49876
890-4371-A-8-E MS	Matrix Spike	Soluble	Solid	300.0	49876
890-4371-A-8-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	49876

### **Lab Chronicle**

 Client: Ensolum
 Job ID: 890-4378-1

 Project/Site: JRU 21 SWD Fire
 SDG: 03C1558189

Client Sample ID: SS04

Lab Sample ID: 890-4378-1

Matrix: Solid

Date Collected: 03/21/23 10:50 Date Received: 03/21/23 15:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	49804	03/29/23 10:03	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50101	04/03/23 03:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			50225	04/03/23 15:20	SM	EET MID
Total/NA	Analysis	8015 NM		1			49854	03/29/23 14:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	49658	03/27/23 16:18	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	49689	03/28/23 19:55	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	49876	03/29/23 16:13	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50035	03/31/23 20:29	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: 890-4378-1 Project/Site: JRU 21 SWD Fire

SDG: 03C1558189

### **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	<b>Expiration Date</b>
Texas	NE	ELAP	T104704400-22-25	06-30-23
The following analytes the agency does not of	• •	it the laboratory is not certif	ied by the governing authority. This list ma	ay include analytes fo
Analysis Method	Prep Method	Matrix	Analyte	
8015 NM		Solid	Total TPH	

### **Method Summary**

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4378-1

SDG: 03C1558189

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

### **Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

### Laboratory References:

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

**Eurofins Carlsbad** 

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### Sample Summary

Client: Ensolum

Project/Site: JRU 21 SWD Fire

Job ID: 890-4378-1

SDG: 03C1558189

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4378-1	SS04	Solid	03/21/23 10:50	03/21/23 15:45	0.5'

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### Chain of Custody

Basical Date: 08/35/30/30 Bas: 70/30/3		6					
		4		•		0	
		5	121/03 1545	1d - 3	ac ald the	Ley Ju	NOWA
nature) Date∕Time	re) Received by: (Signature)	Relinquished by: (Signature)	Date/Time		Received by: (Signature)	Signature)	Relinquished by: (Signature)
	ond the control spreviously negotiated.	Nytotice. Signature of this document and relinquishment of samples constitutes a valid purchase goder from cuent company to curonia xerico, its animates and subcommences. It is a subcommence and a subcommence of the control 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	curonns Xenco, is animates openses incurred by the clier to Eurofins Xenco, but not a	r from client company to sibility for any losses or ex or each sample submitted	es constitutes a Valid purchase ord les and shall not assume any respo o each project and a charge of \$5	nent and relinquishment of sample be liable only for the cost of sample charge of \$85.00 will be applied t	Votice: Signature of this docur of service. Eurofins Xenco will of Eurofins Xenco. A minimum
Ag SiO <sub>2</sub> Na Sr II Sn U V Zn Hg: 1631 / 245.1 / 7470 / 7471	li K Se	A 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg TCLP/SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se	Al Sb As Ba Be B CC	M Texas 11 Al PLP 6010 : 8RCR/	9RCRA 13PPM Yzed TCLP/SPLF	Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	Total 200.7 / 6010 Circle Method(s) ar
							\
mphenselmsolun.um							
16.24.261001							
Cost Center:							
NAPP2305451388		View -					
Incident #:			X	0.5' 6	3/21/23 1050	S	\$504
Sample Comments		TP	Cont BT	Depth Comp C	Date Time Sampled Sampled	cation Matrix	Sample Identification
NaOH+ASCOIDIC ACID: SAFC		<u>H</u>	101	3.0	Corrected Temperature:		Total Containers:
Zn Acetate+NaOH: Zn	or Sustody			2.4	Temperature Reading:	Yes No WA	Sample Custody Seals:
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>		890-4378 Chain of		6:07	Correction Factor:	Yes No M/A	Cooler Custody Seals:
NaHSO 4: NABIS				1.23-MI	Thermometer ID:	t: Ked No	Samples Received Intact:
H <sub>3</sub> PO <sub>4</sub> : HP			neter	(Tes No	(Yes No Wet ice:	Temp Blank:	SAMPLE RECEIPT
H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na			s 	<u> </u>			PO #:
HCL: HC HNO 3: HN	- - -	-		TAT starts the day received by		Mered the Roberts	
Cool: Cool MeOH: Me					6130 Due Date:	32.36881-103.86730	
None: NO DI Water: H <sub>2</sub> O			Pres. Code	ST.	[Mout	1558189	er:
Preservative Codes	EST	ANALYSIS REQUEST		Turn Around	Fire Turn	JRU 21 SWD	Project Name:
ADaPT Other:	Deliverables: EDD	3	blockilleensolm.com	blockille	652 Email:	989-854-0852	Phone:
PST/UST TRRP Level IV	Reporting: Level II  Level III	ansbad, NM 88220	Cartsba	City, State ZIP:	88220	Carisbad, NM	City, State ZIP:
]	State of Project:	Greene St	3104 E	Address:	1 Parks Hwy	3122 Nati	Address:
Brownfields RRC Superfund	Program: UST/PST   PRP   Brownfields	Emeray	XTOF	Company Name:	C		Company Name:
Work Order Comments	Work Orc	Garrett Green	Garra	Bill to: (if different)		Den Best 11	Project Manager:
com Page of	www.xenco.com	ad, MM (272) 200-2122	רוטטט, INM (מיט) סאבירטטר, רמווטטמט, ואוז (מיט) סטיט וואס	HODDS, N			
		ck, TX (806) 794-1296	EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296	EL Paso, T		Xenco	
No:	Work Order No:	tonio, TX (210) 509-3334	Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334	Midland, T)	<b>Environment Testing</b>		
		as, TX (214) 902-0300	Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300	Houston			CULOIUN

### **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-4378-1

 SDG Number: 03C1558189

Login Number: 4378 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	Johnson
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or ampered 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	
s 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	

Eurofins Carlsbad
Page 19 of 20
4/3/2023

### **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-4378-1 SDG Number: 03C1558189

**List Source: Eurofins Midland** 

Creator: Teel, Brianna

Login Number: 4378 List Number: 2 List Creation: 03/23/23 10:27 AM

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	
ls the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is	True	

<6mm (1/4").



April 10, 2023

**BEAUX JENNINGS** 

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: JRU 21 SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 04/06/23 13:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Celey D. Keene

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



### Analytical Results For:

ENSOLUM, LLC BEAUX JENNINGS 705 W WADLEY AVE. MIDLAND TX, 79705 Fax To:

Received: 04/06/2023 Sampling Date: 04/06/2023
Reported: 04/10/2023 Sampling Type: Soil

Project Name: JRU 21 SWD FIRE Sampling Condition: Cool & Intact
Project Number: 03C1558189 Sample Received By: Tamara Oldaker

A ... - I. ... - - I D. ... 311 /

Project Location: XTO-EDDY COUNTY, NEW MEXICO

### Sample ID: BH 01 0.5' (H231618-01)

BTEX 8021B	mg,	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/06/2023	ND	2.19	109	2.00	5.91	
Toluene*	<0.050	0.050	04/06/2023	ND	2.22	111	2.00	5.05	
Ethylbenzene*	<0.050	0.050	04/06/2023	ND	2.17	108	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/06/2023	ND	6.79	113	6.00	7.67	
Total BTEX	<0.300	0.300	04/06/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 71.5-13	4						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	04/10/2023	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2023	ND	190	95.1	200	1.43	
DRO >C10-C28*	132	10.0	04/06/2023	ND	187	93.7	200	0.441	
EXT DRO >C28-C36	20.6	10.0	04/06/2023	ND					
Surrogate: 1-Chlorooctane	104	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	109	% 49.1-14	8						

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene



### Analytical Results For:

ENSOLUM, LLC BEAUX JENNINGS 705 W WADLEY AVE. MIDLAND TX, 79705 Fax To:

Received: 04/06/2023 Sampling Date: 04/06/2023

Reported: 04/10/2023 Sampling Type: Soil

Project Name: JRU 21 SWD FIRE Sampling Condition: Cool & Intact
Project Number: 03C1558189 Sample Received By: Tamara Oldaker

Analyzed By: 1H /

Project Location: XTO-EDDY COUNTY, NEW MEXICO

### Sample ID: BH 01 A 2' (H231618-02)

RTFY 8021R

Result <0.050 <0.050 <0.050 <0.150 <0.300	0.050 0.050 0.050 0.050 0.150	Analyzed 04/06/2023 04/06/2023 04/06/2023	Method Blank ND ND	BS 2.19 2.22	% Recovery	True Value QC 2.00	RPD 5.91	Qualifier
<0.050 <0.050 <0.150	0.050 0.050	04/06/2023				2.00	5.91	
<0.050 <0.150	0.050		ND	2.22	111			
<0.150		04/06/2023			111	2.00	5.05	
	0.150		ND	2.17	108	2.00	6.54	
<0.300		04/06/2023	ND	6.79	113	6.00	7.67	
	0.300	04/06/2023	ND					
104	% 71.5-13	4						
mg,	'kg	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
832	16.0	04/10/2023	ND	416	104	400	0.00	
mg,	'kg	Analyze	d By: MS					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<10.0	10.0	04/06/2023	ND	190	95.1	200	1.43	
<10.0	10.0	04/06/2023	ND	187	93.7	200	0.441	
<10.0	10.0	04/06/2023	ND					
116	% 48.2-13	4						
110								
	mg/ Result 832 mg/ Result <10.0 <10.0	mg/kg       Result     Reporting Limit       832     16.0       mg/kg       Result     Reporting Limit       <10.0     10.0       <10.0     10.0       <10.0     10.0       <10.0     10.0	mg/kg         Analyzed           Result         Reporting Limit         Analyzed           832         16.0         04/10/2023           mg/kg         Analyzed           Result         Reporting Limit         Analyzed           <10.0	mg/kg         Analyzed By: AC           Result         Reporting Limit         Analyzed         Method Blank           832         16.0         04/10/2023         ND           mg/kg         Analyzed By: MS           Result         Reporting Limit         Analyzed         Method Blank           <10.0	mg/kg         Analyzed By: AC           Result         Reporting Limit         Analyzed         Method Blank         BS           832         16.0         04/10/2023         ND         416           mg/kg         Analyzed By: MS           Result         Reporting Limit         Analyzed         Method Blank         BS           <10.0	mg/kg         Analyzed By: AC           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           832         16.0         04/10/2023         ND         416         104           mg/kg         Analyzed By: MS           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           <10.0	mg/kg         Analyzed By: AC           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           832         16.0         04/10/2023         ND         416         104         400           mg/kg         Analyzed By: MS           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           <10.0	mg/kg         Analyzed By: AC           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           832         16.0         04/10/2023         ND         416         104         400         0.00           Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           <10.0

### Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keine



### **Notes and Definitions**

QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

ecovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Keine

Relinquished By:

Time: 333 Date: Time:

Received By:

REMARKS:

BBelill@ensolum.com, garrett.green@exxonmobil.com, TMorrissey@ensolum.com

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Observed Temp. "C Corrected Temp. CAG

00

Sample Condition
Cool Intact
Yes Yes
No No

CHECKED BY: (Initials)

Turnaround Time:

Standard

Cool Intact □ Yes □ Yes □ No □ No

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

Corrected Temp. °C

Thermometer ID #113 Correction Factor -0.5°C

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



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

St. STE 400  State: TX Zip: 79701  Address: 3104 E  Fax #:  City: Carlsbad  Project Owner:  WD Fire  Project Owner:  State: NM Zip: 6  Phone #: 575 20  Phone #	Project Manager: Ben Belill	Ensolum, LLC Ben Belill				Cost Cente	BILL TO  Cost Center#: 1629261001		3	C
State: TX Zip: 79701  Fax #:  Project Owner:  County, New Mexico  arker  Sample Depth (C)OMP.  (feet)  GONTAINERS WATRIX  H01A  2'  G1 # CONTAINERS WASTEWATER WATRIX  SOIL SLUDGE	Address: 601 N	V. Marienfeld St. STE	00			Company:	XTO Energ			y, Inc
Fax #:  1 SWD Fire  County, New Mexico  arker  Sample Depth (C)OMP.  (feet)  H01A  2'  G 1 # CONTAINERS  WASTEWATER WASTEWATER SOIL OIL SLUDGE			100		701	Attn: Garre	ett Green			
County, New Mexico  Tricker  T	Phone #: 989854	40852	Fax #:			Address: 3	104 E Gree	(D)		
JRU 21 SWD Fire  phone #: 575 20  Rase Parker  Sample I.D.  Sample Depth (C) OMP (Reet)  BH01  D.5'  G1  SILUBER: WATRIX  FRESERV.  FAX #:  PRESERV.  FAX #:	Project #: 03C15	558189	Project Owne	,,		city: Carls	bad			
Sample I.D. Sample Depth (G) OMP.  BH01 0.5' G 1		JRU 21 SWD Fire				State: NM	Zip: 88.	220		
I.D. Sample Depth (C)OMP.  G G (G)RAB OR (C)OMP.  1 # CONTAINERS  GROUNDWATER  WASTEWATER  WASTEWATER  X SOIL  OIL  SLUDGE  OTHER:  ACID/BASE:  X ICE / COOL  OTHER:	Project Location:	Eddy County, Ne	w Mexico			Phone #:	575 200	07		
I.D. Sample Depth  (feet)  G.G.(G)RAB OR (C)OMP.  1	Sampler Name: K	(ase Parker				Fax #:				30
BH01A  Sample I.D.  Sample Depth  (feet)  GG(G)RAB OR (C)OMP.  1 # CONTAINERS  GROUNDWATER  WASTEWATER  X SOIL  OIL  SLUDGE  OTHER:  ACID/BASE:  X ICE / COOL  OTHER:	FOR LAB USE ONLY				MATRIX	PRESER		AMPL	SAMPLING	
BH01 0.5' G1 X X X BH01A 2' G1 X X	Lab I.D.	Sample I.D.	Sample Depti	(G)RAB OR (C)OMP. # CONTAINERS	WASTEWATER SOIL OIL	OTHER: ACID/BASE: ICE/COOL		<b>#</b>	TIME	
BH01A 2' G 1 X X	10000	BH01	0.5	_	×	×			1030	
	2	BH01A	2		×	×	4/6/202	133	1040	23 1040 X X
								-		
								1		1
						1	+			
				1			T	_		
	Relinquished By:	PLEASE NOTE: Lability and Damages. Cardinal's lability and clent's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatscever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss or profits incurred by client, its subsidiaries.	ent's exclusive remedy for cause whatsoever shall be quental damages, including	ny claim arising v deemed waived i without limitation	whether based in cont unless made in writing to business interruption	ract or tort, shall be limb rand received by Cardin rs, loss of use, or loss o	ed to the amount paid al within 30 days after f profits incurred by cli		by the client for the a completion of the a ent. Its subsidiaries	completion of the applicable ent, its subsidiaries.



April 10, 2023

**BEAUX JENNINGS** 

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: JRU 21 SWD FIRE

Enclosed are the results of analyses for samples received by the laboratory on 04/06/23 13:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

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

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

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



### Analytical Results For:

ENSOLUM, LLC BEAUX JENNINGS 705 W WADLEY AVE. MIDLAND TX, 79705 Fax To:

Received: 04/06/2023 Sampling Date: 04/06/2023
Reported: 04/10/2023 Sampling Type: Soil

Project Name: JRU 21 SWD FIRE Sampling Condition: Cool & Intact
Project Number: 03C1558189 Sample Received By: Tamara Oldaker

Project Location: XTO-EDDY COUNTY, NEW MEXICO

### Sample ID: SS 05 0.5' (H231617-01)

BTEX 8021B	mg,	/kg	Analyze	d By: JH/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/06/2023	ND	2.19	109	2.00	5.91	
Toluene*	<0.050	0.050	04/06/2023	ND	2.22	111	2.00	5.05	
Ethylbenzene*	<0.050	0.050	04/06/2023	ND	2.17	108	2.00	6.54	
Total Xylenes*	<0.150	0.150	04/06/2023	ND	6.79	113	6.00	7.67	
Total BTEX	<0.300	0.300	04/06/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	100	% 71.5-13	4						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/10/2023	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/06/2023	ND	190	95.1	200	1.43	
DRO >C10-C28*	<10.0	10.0	04/06/2023	ND	187	93.7	200	0.441	
EXT DRO >C28-C36	<10.0	10.0	04/06/2023	ND					
Surrogate: 1-Chlorooctane	97.9	% 48.2-13	4						
Surrogate: 1-Chlorooctadecane	104	% 49.1-14	8						

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Celey D. Keine



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recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

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\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

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Celeg D. Freene

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



	(575) 393-2326 FAX (575) 393-2476	AX (575) 393-247	65				
Company Name:	Took III			BILL TO		ANALYSIS	SIS REGUEST
Project Manager: Ben Belill	Ben Belill			Cost Center#: 1629261001		_	
Address: 601 N	601 N. Marienfeld St. STE 400	400		Company: XTO Energy, Inc	, Inc	_	
City: Midland		State: TX 2	Zip: 79701	Attn: Garrett Green			
Phone #: 9898540852	10852	Fax #:		Address: 3104 E Green of	1	_	
Project #: 03C1558189	58189	Project Owner:		city: Carlsbad			
-	IRU 21 SWD Fire			State: NM Zip: 88220			
Project I ocation	Project Location: Eddy County, New Mexico	w Mexico		Phone #: 575 200 0729			
r loject Location	ose Darker			Fax #:	30		
Sampler Name: Kase Parker	ase Parker		MATRIX	PRESERV SAMPLING	A	_	
FOR LAB USE ONLY					(EP/	021)	
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OM # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER : ACID/BASE: ICE / COOL OTHER : DATE	Chlorides (	STEX (80	
HOUNT	SS05	0.5'	1	4/6/2023	1140 X	>	
				1			
			1				
PLEASE NOTE: Liability an analyses. All claims includi	d Damages. Cardinal's liability and growing those for negligence and any other.	client's exclusive remedy for an her cause whatsoever shall be d	y claim arising whether based in contr eemed walved unless made in writing without limitation, business interruption	PLEASE NOTE: Lability and Damages. Cardinal's lability and client's exclusive remedy for any claim arising whether based in contract or tort, that the innex to the amount you or to the applicable present and in the property of the property of the applicable arisings including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal which 30 days after completion of the applicable arisings.	completion of the applicable ent, its subsidiaries.		
affliates or successors arising Relinguished By:	ng out of or related to the performa	Date: 1-33	Received By:	in a based upon any of the above stated its	ilt:   Yes re emailed. rsolum.com,	☐ No ☐ Add'! Phone #: Please provide Email address: garrett.green@exxonmobil.com,	s □ No  Add'I Phone #: Please provide Email address: garrett.green@exxonmobil.com, TMorrissey@ensolum.com
Refinquished By:	, v	Date:	Received By:		REMARKS:		
Delivered By: (Circle One)		Observed Temp. C		dition CHECKED BY:			Bacteria (only) sample collusion  Cool Intact Observed Temp. °C  Cool Intact Temp. °C
Sampler - UPS - Bus - Other:		Corrected Tamp. °C	26 No No No		Correction Factor -0.5°C	CONTRO	□ Nc □ No Corrected Temp. "C



APPENDIX E

**NMOCD Notifications** 

### **Ben Belill**

From: Green, Garrett J <garrett.green@exxonmobil.com>

**Sent:** Friday, March 17, 2023 11:59 AM

To: Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

**Cc:** Ben Belill; DelawareSpills /SM

**Subject:** XTO - 48 Hour Liner Inspection Notifications - Multiple Releases

### [ \*\*EXTERNAL EMAIL\*\*]

### Good morning,

This is sent as a 48-hour notification, XTO is scheduled to inspect the following lined containments listed below on Tuesday, March 21, 2023. Please call us with any questions or concerns.

Site: JRU 21 SWD

Incident Number: nAPP2305452388

Time: 10:00 am MST

GPS Coordinates: (32.36881,-103.86730)

Site: Remuda 500

Incident Number: nAPP2306544797

Time: 12:00 pm MST

GPS Coordinates: (32.270271,-103.936544)

Site: PLU 13 Dog Town Draw Battery Incident Number: nAPP2304448906

Time: 2:00 pm MST

GPS Coordinates: (32.20569,-103.83013)

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: <u>Collins, Melanie</u>

To: ocd.enviro (ocd.enviro@emnrd.nm.gov); Bratcher, Michael, EMNRD (mike.bratcher@emnrd.nm.gov); Hamlet,

Robert, EMNRD (Robert.Hamlet@emnrd.nm.gov); Harimon, Jocelyn, EMNRD (Jocelyn.Harimon@emnrd.nm.gov)

 Cc:
 Green, Garrett J; DelawareSpills /SM; Tacoma Morrissey

 Subject:
 XTO - Sampling Notification (Week of 4/3/23 - 4/7/23)

**Date:** Thursday, March 30, 2023 3:27:50 PM

Attachments: image001.png

### [ \*\*EXTERNAL EMAIL\*\*]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of April 3, 2023.

### Monday

JRU 21 SWD/ nAB1834656162

- BEU 156 Fire / nAPP2304448906

### Friday

Los Medanos 36-23-30 State Battery/ NAB1704456898

Thank you,

### Melanie Collins



**Environmental Technician** 

melanie.collins@exxonmobil.com

432-556-3756

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 215375

### **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	215375
	Action Type:
	[C-141] Release Corrective Action (C-141)

### CONDITIONS

C	created By	Condition	Condition Date
	rhamlet	We have received your closure report and final C-141 for Incident #NAPP2305452388 JRU 21 SWD, thank you. This closure is approved. Please be aware that any contaminants left on pad above reclamation standards will need to be addressed at the time the site/facility is plugged and abandoned.	9/28/2023