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	NAPP2209446613
District RP	- <del> </del>
Facility ID	
Application ID	

#### **Release Notification**

#### **Responsible Party**

Responsible Party			OGRID	OGRID		
Contact Name			Contact Te	Contact Telephone		
Contact email			Incident #	Incident # (assigned by OCD)		
Contact mail	ing address			l l		
			Location	of Release So	ource	
Latitude				Longitude _		
			(NAD 83 in dec	cimal degrees to 5 decin	nal places)	
Site Name				Site Type		
Date Release	Discovered			API# (if app	olicable)	
Unit Letter	Section	Township	Range	Coun	nty	
Surface Owner	r: State	Federal Tr	ribal	Name:		)
			TAT 4	1771 61	D 1	
			Nature and	d Volume of 1	Release	
				calculations or specific		ne volumes provided below)
Crude Oil		Volume Release	`		Volume Recovered (bbls)	
Produced	Water	Volume Release			Volume Recovered (bbls)	
			tion of total dissolvater >10,000 mg		☐ Yes ☐ 1	No
Condensa	ite	Volume Release		3/1:	Volume Recovered (bbls)	
Natural G	as	Volume Release	ed (Mcf)		Volume Recovered (Mcf)	
Other (describe) Volume/Weight Released (provide units		e units)	Volume/Weight Recovered (provide units)			
			u ,			
Cause of Rele	ease					

Received by OCD: 7/19/2022 10:30:01 AM State of New Mexico
Page 2 Oil Conservation Division

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Incident ID	NAPP2209446613
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Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the respon	nsible party consider this a major release?
☐ Yes ☐ No		
If YES, was immediate no	otice given to the OCD? By whom? To wh	om? When and by what means (phone, email, etc)?
	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 stopped.	
☐ The impacted area ha	s been secured to protect human health and	the environment.
Released materials ha	ave been contained via the use of berms or o	likes, absorbent pads, or other containment devices.
	ecoverable materials have been removed an	
If all the actions described	d above have <u>not</u> been undertaken, explain	why:
has begun, please attach	a narrative of actions to date. If remedial	emediation immediately after discovery of a release. If remediation efforts have been successfully completed or if the release occurred clease attach all information needed for closure evaluation.
regulations all operators are public health or the environr failed to adequately investig	required to report and/or file certain release notinent. The acceptance of a C-141 report by the Cate and remediate contamination that pose a three	best of my knowledge and understand that pursuant to OCD rules and fications and perform corrective actions for releases which may endanger CCD does not relieve the operator of liability should their operations have at to groundwater, surface water, human health or the environment. In
and/or regulations.	i a C-141 report does not reneve the operator of	responsibility for compliance with any other federal, state, or local laws
Printed Name:	12	Title:
Signature:	rion Baks	Date:
email:		Telephone:
OCD Only		
Received by:Jocelyn l	Harimon	Date: 04/04/2020

Location:	Pierce Canyon 3 SWD		
Spill Date:	3/21/2022		
	Area 1		
Approximate A	rea = 56.15	cu.ft.	
	VOLUME OF LEAK	•	
Total Crude Oil	= 0.00	bbls	
Total Produced Water = 10.00		bbls	
	TOTAL VOLUME OF LEAK		
Total Crude Oil	= 0.00	bbls	
Total Produced Water = 10.00		bbls	
	TOTAL VOLUME RECOVERED		
Total Crude Oil = 0.00 bl		bbls	
Total Produced Water = 10.00		bbls	

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 95695

#### **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	95695
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
jharimon	None	4/4/2022

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Incident ID	NAPP2209446613	
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Application ID		

#### **Site Assessment/Characterization**

This information must be provided to the appropriate district office no taler than 20 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 vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.		
Characterization Report Checklist: Each of the following items must be included in the report.		
<ul> <li>Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.</li> <li>Field data</li> <li>Data table of soil contaminant concentration data</li> </ul>		

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

Depth to water determination

Topographic/Aerial maps

Photographs including date and GIS information

□ Laboratory data including chain of custody

Boring or excavation logs

Received by OCD: 7/19/2022 10:30:01 AM Form C-141 State of New Mexico Page 4 Oil Conservation Division

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Incident ID	NAPP2209446613
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Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the Gailed to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	fications and perform corrective actions for releases which may endanger DCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name:Garrett Green	Title:Environmental Coordinator
Signature:Satt Surr	Date:07/19/2022
email:garrett.green@exxonmobil.com	Telephone:575-200-0729
OCD Only	
Received by:	Date:

State of New Mexico

	Page 7 of 1.	<i>32</i>
Incident ID	NAPP2209446613	
District RP		
Facility ID		
Application ID		

#### Closure

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

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

A scaled site and sampling diagram as described in 19.15.29.11 N	MAC
Photographs of the remediated site prior to backfill or photos of the must be notified 2 days prior to liner inspection)	ne liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODC Dis	strict 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 and regulations all operators are required to report and/or file certain release endanger public health or the environment. The acceptance of a C-should their operations have failed to adequately investigate and remedi human health or the environment. In addition, OCD acceptance of a C-compliance with any other federal, state, or local laws and/or regulation restore, reclaim, and re-vegetate the impacted surface area to the conditi accordance with 19.15.29.13 NMAC including notification to the OCD Printed Name: Garrett Green Title Signature: Da email: garrett.green@exxonmobil.com Te	ease notifications and perform corrective actions for releases which 141 report by the OCD does not relieve the operator of liability atte contamination that pose a threat to groundwater, surface water, 141 report does not relieve the operator of responsibility for s. The responsible party acknowledges they must substantially ons that existed prior to the release or their final land use in when reclamation and re-vegetation are complete.  Example 207/19/2022
OCD Only	
Received by:	Date:
Closure approval by the OCD does not relieve the responsible party of li remediate contamination that poses a threat to groundwater, surface water party of compliance with any other federal, state, or local laws and/or responsible party of compliance with any other federal, state, or local laws and/or responsible party of linear party of compliance with any other federal, state, or local laws and/or responsible party of linear	r, human health, or the environment nor does not relieve the responsible
Closure Approved by:	Date: 08/23/2022
Printed Name: Jennifer Nobui	Title: Environmental Specialist A



July 19, 2022

District II New Mexico Oil Conservation Division 811 South First Street Artesia. New Mexico 88210

Re: Closure Request

Pierce Canyon 3 SWD

**Incident Number NAPP2209446613** 

**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 site assessment and soil sampling activities performed at the Pierce Canyon 3 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 lined containment at the Site. Based on field observations, field screening activities, and laboratory analytical results, XTO is requesting closure for Incident Number NAPP2209446613.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in in Unit P, Section 3, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.15473°N, 103.86435°W) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) managed federal land.

On March 21, 2022, a failed check valve on a pump resulted in the release of approximately 10 barrels (bbls) of produced water into the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; all 10 bbls of produced water were recovered from within the lined containment. A 48-hour advance notice of liner inspection was provided via email to the New Mexico Oil Conservation Division (NMOCD) District II office. A liner integrity inspection was conducted by XTO personnel following the fluid recovery and upon inspection, the liner was determined to be insufficient. XTO reported the release to the NMOCD on a Release Notification Form C-141 (Form C-141) on April 4, 2022. The release was assigned Incident Number NAPP2209446613.

#### SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants
601 North Marienfeld Street | Midland, TX 79701 | ensolum.com
Texas PG Firm No. 50588 | Texas PE Firm No. F-21843



groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04520, located approximately 1.25 miles northeast of the Site. The groundwater well has a reported depth to groundwater of 455 feet bgs and a total depth of 630 feet bgs.

Additional wells with depth to groundwater greater than 100 feet bgs are located to the north, south, east, and west of site. The wells are greater than NMOCD's preferred 0.5 mile radius from the Site, however; the consistent presence of non-water bearing lithology in all directions of the Site is sufficient to estimate depth to groundwater at the Site as greater than 100 feet bgs. There are no regional or Site-specific hydrological conditions, such as shallow surface water, karst features, wetlands, or vegetation that suggest the Site is conducive to shallow groundwater. All wells used for depth to groundwater 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 freshwater emergent wetland, located approximately 3,640 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table 1 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

During June 2022, site assessment activities were conducted to evaluate the release extent based on information provided on the Form C-141 and visual observations. Ensolum personnel advanced one borehole (BH01) via hand-auger at the location of the tear in the liner identified during the liner integrity inspection. Two discrete delineation soil samples were collected from the borehole at depths of approximately 1-foot and 2 feet bgs. Soil from the borehole was field screened for volatile aromatic hydrocarbons utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the borehole were documented on a lithologic/soil sampling log, which is included as Appendix B. The borehole was backfilled with the soil removed and the tear in the liner was repaired. Four additional assessment samples (SS01 through SS04) were collected around the lined containment from a depth of 0.5 feet bgs to confirm the lateral extent of the release. The borehole and delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. A photographic log is included in Appendix C.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of 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.

#### LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples from borehole BH01 indicated benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Appendix D.

#### **CLOSURE REQUEST**

Following the failed liner integrity inspection at the Site, Ensolum personnel advanced borehole BH01 at the location of the tear in the liner to assess for the presence or absence of impacted soil resulting from the March 21, 2022, produced water release within lined containment. Two delineation soil samples were collected from borehole BH01, at depths of approximately 1-foot and 2 feet bgs. Laboratory analytical results for the delineation soil samples indicated benzene, BTEX, TPH-DRO/TPH-GRO, TPH and chloride concentrations were compliant with the Site Closure Criteria. Additionally, laboratory analytical results for soil samples SS01 through SS04, collected around the containment, were compliant with the most stringent Table 1 Closure Criteria. The release was contained laterally by the lined containment and all released fluids were recovered during initial response activities. The tear in the liner was subsequently repaired. With the integrity of the liner restored, the potential for contaminants (new or residual) to vertically migrate towards the groundwater table has been removed, protecting human health, the environment, and groundwater.

Based on initial response efforts, depth to groundwater greater than 100 feet bgs, and soil sample laboratory analytical results compliant with the Closure Criteria directly beneath the tear in the liner, XTO respectfully requests closure for Incident Number NAPP2209446613.

If you have any questions or comments, please contact Ms. Ashley Ager at (970) 946-1093 or aager@ensolum.com.

Ushley L. Ager

Ashley Ager, P.G.

**Program Director** 

Sincerely, Ensolum, LLC

Ben Bellil

**Project Geologist** 

Garrett Green, XTO CC:

Bureau of Land Management

Appendices:

Figure 1 Site Receptor Map

Figure 2 **Delineation Soil Sample Locations** 



Table 1 Soil Sample Analytical Results

Appendix A Well Records

Appendix B Lithologic Soil Sampling Logs

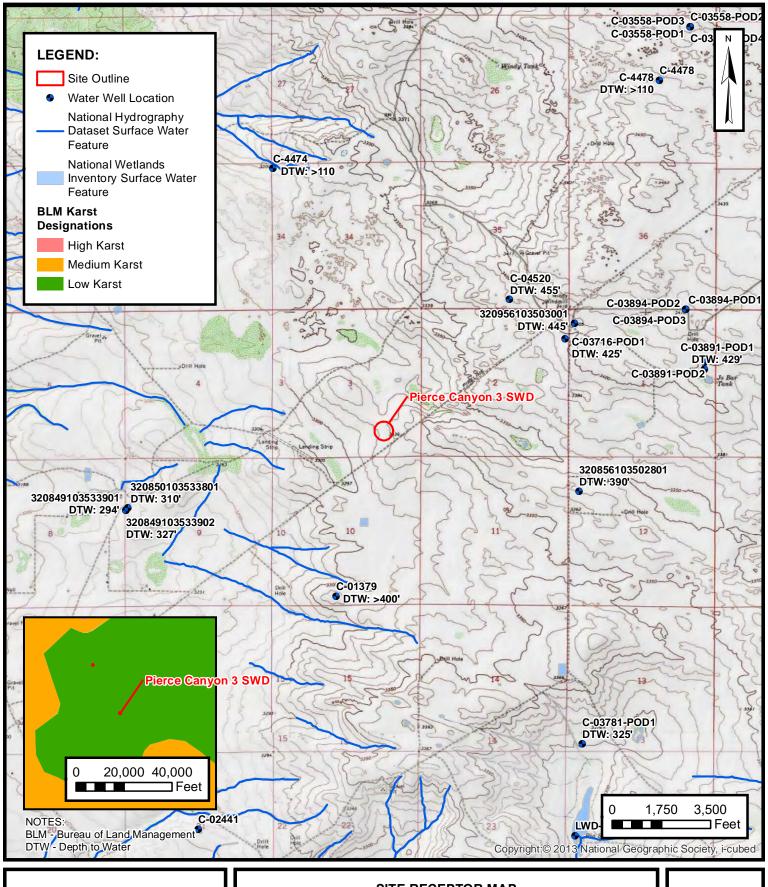
Appendix C Photographic Log

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

Appendix E NMOCD Sample Notification



**FIGURES** 

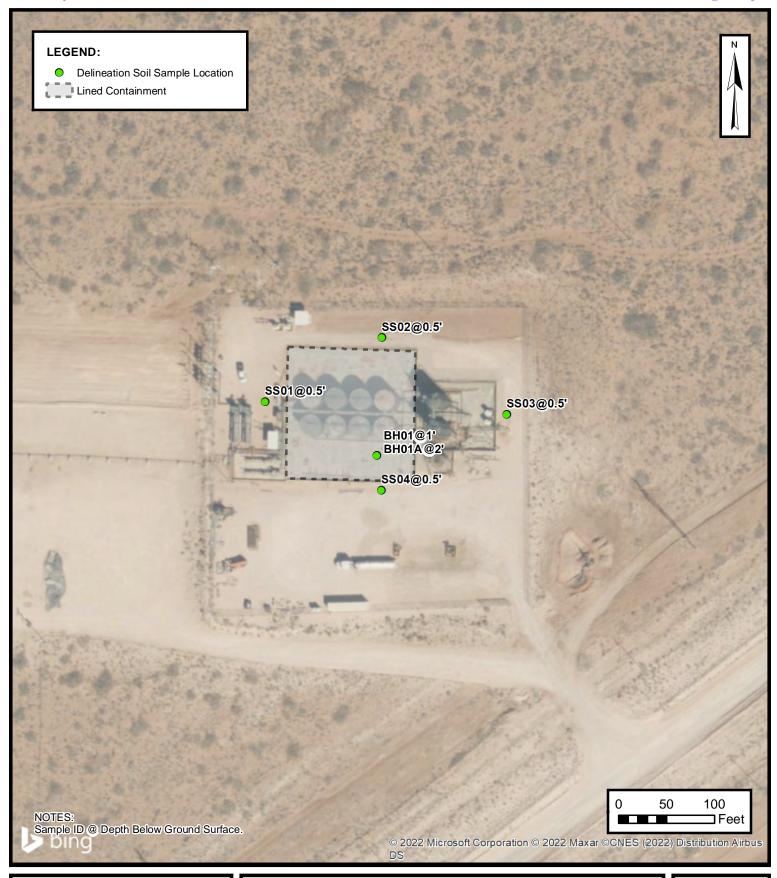




#### SITE RECEPTOR MAP

XTO ENERGY, INC PIERCE CANYON 3 SWD NAPP2209446613 Unit P, Sec 03, T25S, R30E Eddy County, New Mexico FIGURE

1





#### **DELINEATION SOIL SAMPLE LOCATIONS**

XTO ENERGY, INC PIERCE CANYON 3 SWD NAPP2209446613 Unit P, Sec 03, T25S, R30E Eddy County, New Mexico **FIGURE** 

2



**TABLES** 



## TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS XTO Energy, Inc. - Pierce Canyon 3 SWD Eddy County, New Mexico

#### Ensolum Project No. 03E1558057

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 1 Cl	osure Criteria (	NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	20,000
				Delineation	Soil Sample Analy	tical Results				
SS01	06/27/2022	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	22.1
SS02	06/27/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	7.68
SS03	06/27/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	157
SS04	06/27/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	42.7
BH01	06/02/2022	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	741
BH01A	06/02/2022	2	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	163

#### Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria for Soils Impacted

by a Release

Ensolum 1 of 1



**APPENDIX A** 

Well Records



## WELL RECORD & LOG

#### OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	•											
	OSE POD NO	(WELL NO.	)		WELL TAG ID NO	).		OSE FILE NO(S	5).			
NO.	C-04520 P	OD-1			20E1C			C-04520	**			
ĄŢ	WELL OWNE							PHONE (OPTIO	ONAL)			
0C	Nathan Bra	dy : Doub	le E Pipeline, LLC									
TT	WELL OWNER MAILING ADDRESS							CITY		STATE		ZIP
VEL	910 Louisiana St Ste 4200						Houston		TX	77002		
ΘŽ		<del></del>	DE	GREES	MINUTES	SECON	DS					
L A	WELL LOCATIO	N   LAT	TITUDE	32	10	6.4	N	* ACCURACY	REQUIRED: ONE TENT	TH OF A SE	COND	
[KA]	(FROM GP	s)		103	50	59	W	* DATUM REC	QUIRED: WGS 84			
GENERAL AND WELL LOCATION	DECCRIPTION		GITUDE  G WELL LOCATION TO	CTREET ADDR	ESS AND COMMO	N I ANDMA	DKC DIC	S (SECTION TO	WNSHIIP RANGE) WH	ERE AVAI	LABLE	
1.6			T 24 R 30E	STREET ADDR	ESS AND COMMO	IV ERNOVE		02011011, 10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	LICENSE NO		NAME OF LICENSED	DRILLER					NAME OF WELL DRI	LLING CO	MPANY	
	WD-1		l Diobaide		Roy Taylor					/ Taylor I		
	DRILLING S	TARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (F	FT)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIRS	T ENCOU	NTERED (FT)	
	6/1/	21	6/9/21		630'			650'		455'		
	COMPLETE	) WELL IS:	ARTESIAN	DRY HOL	E 🔽 SHALLO	OW (UNCO	NFINED)		STATIC WATER LEV	EL IN COM 455'	MPLETED WE	LL (FT)
CASING INFORMATION	DRILLING F	LUID:	AIR	MUD	ADDITI	VES – SPEC	IFY:		<u> </u>			<del>-</del>
MA	DRILLING M		ROTARY	HAMMER	CABLE	TOOL	ОТНЕ	ER – SPECIFY:				
FOR	DEDTH	(C b l)		CASING	MATERIAL AN	ID/OP			T	<u> </u>		<u> </u>
Z	FROM	(feet bgl)	BORE HOLE	CASINO	(include each casing string, and			ASING NECTION	CASING INSIDE DIAM.		NG WALL CKNESS	SLOT
NI	FROM	10	DIAM (inches)					ГҮРЕ	(inches)	l	nches)	(inches)
CAS	0	590'	8 3/4		sections of screen	1)	<u> </u>	oling diameter) uik-loc	4.50	0.25		NA
જ	590'	630'	8 3/4		PVC SDR-17			uik-loc	4.50		0.25	.035
DRILLING												
RIL									,			
2. D												
				7								
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1	ļ <del></del>	(feet bgl)	BORE HOLE DIAM. (inches)		ST ANNULAR S VEL PACK SIZI				(cubic feet)		PLACEN	
ANNULAR MATERIAL	FROM 0	TO 20'	8 3/4			ement			6.2		Pourd	led
ATE	20'	520'	8 3/4			8 gravel			154		Pourd	led
Z Z	520'	630'	8 3/4	<del>                                     </del>		silica sand			34		Trem	nie
LAI	<del></del>			<del> </del>								
N N		-							# - 9 _ 1	. 2		
3. A.										3.		
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	OCE DITTE	NAI HOP		<u> </u>				WR-7	0 WELL RECORD	& LOG ^	Version 04/3	0/19)
	OSE INTER	4527	1 E (0-4 - C		POD N	10.	(	TRN		27		
<del></del>	CATION	<u>محرر</u>	fSunt =	24.30	.35. 33	34		WELL TAG I	DNO. 2015	10	PAGE	1 OF 2
1			0							T.		

THICKNESS (feet)  COLOR AND TYPE OF MATERIAL ENCOUNTERED - WATER SUPPLIES OF FRACTURE ZONES (Feet)  WATER BEARING? WATER-BEARING CAVITIES OR FRACTURE ZONES (YES / NO) BEARING?  (attack supplemental sheets to fully describe all units) (YES / NO) BEARING									<del></del>			
0				1	INCLUDE WATE	R-BEARING CAVITIES O	R FRAC	TURE ZONE	s	BEAR	ING?	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
S		. 0	<b>8'</b>	8'		Top Soil				Y	✓ N	· · ·
20						• • • • • • • • • • • • • • • • • • • •						
1986   1998   1999										Y		
1000   1000												
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METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:  PUMP										Y	N	·····
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METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:  PUMP										Y	N	
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PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSE	EST	PRINT NAM	E(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERVI	SION O	F WELL CON	STRUC	TION O	THER TH	IAN LICENSEE:
· ·	5.1		` '		`,							
BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.  Roy Taylor  6/28/21	TURE	RECORD OF	THE ABO	VE DESCRIBED	WELL. I ALSO CERT	IFY THAT THE WELL TA	G, IF RE	QUIRED, HA	S BEER	N INSTA	LLED AT	ND THAT THIS
Roy Taylor 6/28/21	SIGNA	$\mathcal{D}$	Tan	6		Roy Taylor				6/2	8/21	
SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE	و		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME					DATE	
FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 04/30/201) FILE NO. POD NO. TRN NO.			NAL USE			POD NO			LL REC	UKD &	LUG (Ve	rsion 04/30/2019)
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#### **National Water Information System: Web Interface**

HSGS	Water	Reso	urces
0303	vvalce:	NC3U	ui ces

Data Category:		Geographic Area:		
Groundwater	~	United States	~	GO

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- Full News

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

site\_no list =

• 320856103502801

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 320856103502801 25S.30E.12.113211

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°08'56", Longitude 103°50'28" NAD27

Land-surface elevation 3,371 feet above NAVD88

The depth of the well is 482 feet below land surface.

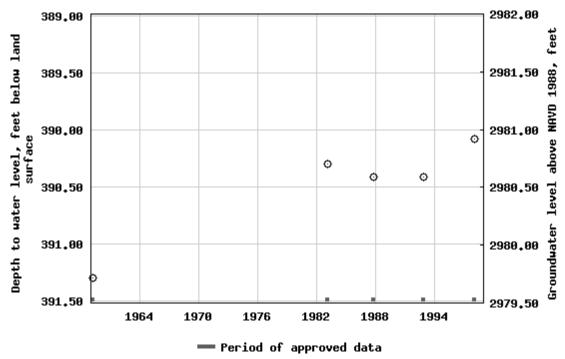
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

#### **Output formats**

Table of data	
Tab-separated data	
Graph of data	
Reselect period	





Breaks in the plot represent a gap of at least one year between field measurements. <u>Download a presentation-quality graph</u>

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**Title: Groundwater for USA: Water Levels** 

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u>

Page Last Modified: 2022-06-02 12:50:22 EDT

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## WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

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AND P		-	DEPTH		BORE HOLE DIA. (IN)	MATERI	AL TYPE AND SIZE	(CUBIC ÉT)	PLACE	MENT
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INFO	WELL TEST  TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.  ADDITIONAL STATEMENTS OR EXPLANATIONS:									
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		WELL RECORD & LOG (Version 6/9/08)
FOR OSE INTERNAL USE	POD NUMBER	TRN NUMBER 539192
FILE NUMBER (* 5)10	2.011	PAGE 2 OF 2
LOCATION US S. 30 E. DJ	~~~~~	



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USGS Water Resources	Data Category:	Geographic Area:		
5565 Water Resources	Groundwater ~	United States	~	GO

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- Full News 🔊

Groundwater levels for the Nation

Important: <u>Next Generation Monitoring Location Page</u>

#### Search Results -- 1 sites found

**Agency code** = usgs **site\_no list** = • 320849103533902

#### Minimum number of levels = 1

Save file of selected sites to local disk for future upload

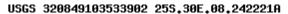
#### USGS 320849103533902 25S.30E.08.242221A

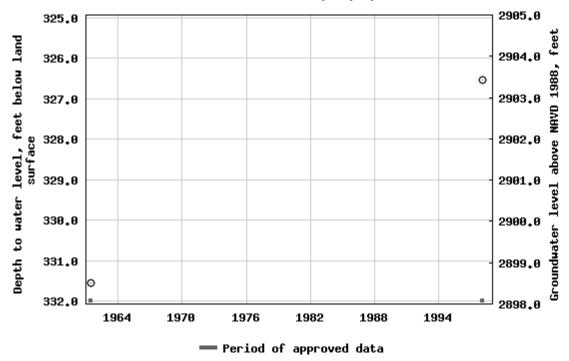
Available data for this site	Groundwater:	Field measurements	~	GO
Eddy County, New Mexico				
Hydrologic Unit Code 1306	0011			
Latitude 32°08'49", Longit	tude 103°5	3'39" NAD27		
Land-surface elevation 3,2	30 feet abo	ve NAVD88		
The depth of the well is 50	0 feet belov	w land surface.		

This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

# Table of data Tab-separated data Graph of data Reselect period





Breaks in the plot represent a gap of at least one year between field measurements. <u>Download a presentation-quality graph</u>

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**Title: Groundwater for USA: Water Levels** 

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: <u>USGS Water Data Support Team</u>

Page Last Modified: 2022-07-13 13:55:48 EDT

0.61 0.53 nadww01



38E 07 607 62020 #3434



									<u> </u>				
	OSE POD NO	-	).)	WELL TAG ID NO.			OSE FILE NO(S).						
GENERAL AND WELL LOCATION	POD1 (BH-01) n/a						C-4474						
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)								PHONE (OPTIONAL)				
ဝ	XTO Energ	gy (Kyle l	Littrell)										
Ξ	WELL OWNER MAILING ADDRESS							CITY		STATE		ZIP	
WE	6401 Holid	lay Hill D	r.					Midland		TX	79707		
2	WELL		DE	GREES	MINUTES	SECON	NDS						
LA	(FROM GPS)		TITUDE	32°	10'	51.4	14" N	* ACCURACY	REQUIRED: ONE TEN	TH OF A	SECOND		
ERA			NGITUDE .	-103°	103° 52' 38.65" W			* DATUM RE	QUIRED: WGS 84				
E	DESCRIPTION			STREET ADDR	ESS AND COMMO	N LANDM.	ARKS – PLS	S (SECTION, TO	WNSHIIP, RANGE) WH	ERE AVA	ILABLE		
1. G	DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE												
	LICENSE NO		NAME OF LICENSED		ackie D. Atkins	_			NAME OF WELL DR				
	124								Atkins Engineering Associates, Inc.				
	DRILLING S 09/10		DRILLING ENDED 09/10/20		MPLETED WELL (F ary well materia	,		LE DEPTH (FT) 110	DEPTH WATER FIR	ST ENCO n/a	• •		
	03/10		03/10/20	winpoi	ary well materi	<b>61</b>							
	COMPLETE	D WELL IS:	ARTESIAN	DRY HOL	DRY HOLE SHALLOW (UNCONFINED)			STATIC WATER LEV	el in cc n/a		LL (FT)		
NO									·				
IAT	DRILLING F	LUID:	AIR	MUD		VES – SPEC							
OR.	DRILLING M	ETHOD:	ROTARY	HAMMER	CABLE	TOOL	OTHE	ier – specify: Hollow Stem Auger			1 Auger		
2. DRILLING & CASING INFORMATION	DEPTH (feet bgl) FROM TO		BORE HOLE	CASING	CASING MATERIAL AND/OR		C.A	ASING	CASING	CASING CASING WAL		SLOT	
SG.			DIAM	GRADE (include each casing string, and		CONNECTION		INSIDE DIAM.			SIZE		
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245. 30 E. 34.111

WELL TAG ID NO.

PAGE 1 OF 2

LOCATION

PAGE 2 OF 2

WELL TAG ID NO.

							<del></del>		,	
	DEPTH (	feet bgl) TO	THICKNESS (feet)	INCLUDE WAT	ND TYPE OF MATER TER-BEARING CAVIT TER-BEARING CAVIT	TES OR FRAC	TURE ZONE	S	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	0	30	30	Sand, Medium	n , poorly-graded with s	ilt, no plasticity	, Red-Brown		Y / N	
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	45	50	5		m , poorly-graded, com		<del> </del>		Y √N	
	50	58	8		vell cemented with med				y √n	
	58	73	15		Medium, Moderate plas				y √n	
	73	78	5		y clay layering, mod pla			hite	Y ✓N	
ÆLI	78	83	5		lium , poorly-graded, n				Y ✓N	
4. HYDROGEOLOGIC LOG OF WELL	83	88	5					m	Y √N	
ğ	88	110	22	Clayey Sand, Medium, Moderate plasticity, decreasing clay, Red Brown  Sand, Fine, poorly-graded, no plasticity, Brown				Y ✓N		
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101									Y N	
SOG									Y N	
IADI					·	·			Y N	
4. H									Y N	
									Y N	
									Y N	
									Y N	
									Y N	
									Y N	
									Y N	
	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-BEARI	NG STRATA:			TOTA	AL ESTIMATED	
	PUM	р Па <u>і</u>	IR LIFT	BAILER TO	OTHER – SPECIFY:			WEI	LL YIELD (gpm):	0.00
PUMP AIR LIFT BAILER OTHER - SPECIFY:										
NOIS	WELL TES				ATA COLLECTED DU SHOWING DISCHAR					
TEST; RIG SUPERVIS	MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface.  Logs adapted from LTE on-site geologist.									
ES	PRINT NAN	(E(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PR	OVIDED ONSITE SU	PERVISION O	F WELL CON	STRU	CTION OTHER TH	AN LICENSEE:
5.1	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:  Shane Eldridge									
TURE	CORRECT I	RECORD OF	F THE ABOVE D	ESCRIBED HOLE A	BEST OF HIS OR HE ND THAT HE OR SH MPLETION OF WELL	E WILL FILE				
6. SIGNATURE	Jack A	tkins		J	ackie D. Atkins				10/07/2020	
9		SIGNATURE OF DRILLER / PRINT SIGNEE NAME							DATE	
							W.D. 44		GORD 4 4 6 7 7 7	
	R OSE INTERI	NAL USE	174		POD NO.	/	WR-20 WE		CORD & LOG (Ver ・フフ ソ/ン	sion 06/30/2017)

LOCATION



**APPENDIX B** 

Lithologic Soil Sampling Logs

12								Sample Name: BH01	Date: 6/2/2022
								Site Name: Pierce Canyon 3 SWI	
		-	N	3	U	U	V	Incident Number: NAPP2209446	
								Job Number: 03E1558057	
	LITHOLOGIC / SOIL SAMPLING LOG						Logged By: PE	Method: Hand Auger	
Coord	inates: 32	2.15473,-	103.8	6435				Hole Diameter: 3.5"	Total Depth: 2'
					ith HACH Lo f soil to disti		oride Test	: Strips and PID for chloride and v	rapor, respectively. Chloride
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic D	escriptions
					I - -	0 - -	CCHE (fill)	0 - 1', CALICHE, moist, tan- unconsolidated, some s no stain, no odor, fill.	-light brown, small sub round gravel,
М	532	0.3	N	BH01	1 -	1	SP	1' - 2', SAND, moist, brown grain, no stain, no odor	n, poorly graded, fine
М	<112	0.2	N	вно1а	2 -	- 2 - 2 	TD	Total Depth at 2 feet bgs.	
					- - - - - -	- - - - - - -			
					- - - - - -	- - - - - -			
					- - - - -	- - - - -			
					- - - -	- - - -			



APPENDIX C

Photographic Log

## **ENSOLUM**

#### Photographic Log

XTO Energy, Inc Pierce Canyon 3 SWD Incident Number Napp2209446613 Ensolum Job Number: 03E1558057





Photograph 1
Date: March 28, 2022
Description: Liner Inspection

Photograph 2
Date: March 28, 2022
Description: Liner Inspection



Photograph 3
Date: June 2, 2022
Description: Delineation activities.



Date: June 7, 2022 Description: Patched liner following delineation activities



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

## **Environment Testing America**

### **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2372-1

Laboratory Sample Delivery Group: 03E1558057

Client Project/Site: Pierce Canyon 3 SWD

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

6/8/2022 11:32:37 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

**Review your project** results through EOL **Have a Question?** 

····· Links ······

Visit us at:

www.eurofinsus.com/Env Released to Imaging: 8/23/2022 9:42:55 AM This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten

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

Client: Ensolum Laboratory Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

## **Table of Contents**

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#### **Definitions/Glossary**

Job ID: 890-2372-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **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** 

F1 MS and/or MSD recovery exceeds control limits. 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" Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

**PQL Practical Quantitation Limit** 

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

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

**Eurofins Carlsbad** 

#### **Case Narrative**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2372-1

SDG: 03E1558057

Job ID: 890-2372-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2372-1

#### Receipt

The samples were received on 6/3/2022 2:20 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 2.0°C

#### **GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-27007 and analytical batch 880-26972 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### GC Semi VOA

Method 8015MOD\_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-26968 and analytical batch 880-26955 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

Matrix: Solid

# **Client Sample Results**

Client: Ensolum Job ID: 890-2372-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: BH01

Lab Sample ID: 890-2372-1

Date Collected: 06/02/22 12:45
Date Received: 06/03/22 14:20

Sample Depth: 1

	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		06/07/22 11:40	06/08/22 04:46	1
Toluene	<0.00202	U	0.00202	mg/Kg		06/07/22 11:40	06/08/22 04:46	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		06/07/22 11:40	06/08/22 04:46	1
m-Xylene & p-Xylene	<0.00403	U	0.00403	mg/Kg		06/07/22 11:40	06/08/22 04:46	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		06/07/22 11:40	06/08/22 04:46	1
Xylenes, Total	<0.00403	U	0.00403	mg/Kg		06/07/22 11:40	06/08/22 04:46	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	107		70 - 130			06/07/22 11:40	06/08/22 04:46	
1,4-Difluorobenzene (Surr)	80		70 - 130			06/07/22 11:40	06/08/22 04:46	1
Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00403	U	0.00403	mg/Kg			06/08/22 12:08	
Analyte	Resuit	Qualifier						
			RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg		Frepareu	06/08/22 10:33	
Total TPH  Method: 8015B NM - Diesel Rang								
• •	ge Organics (D					Prepared		
: Method: 8015B NM - Diesel Ran	ge Organics (D	RO) (GC) Qualifier	49.8	mg/Kg		<u> </u>	06/08/22 10:33	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	ge Organics (D	RO) (GC) Qualifier	49.8 <b>RL</b>	mg/Kg		Prepared	06/08/22 10:33  Analyzed	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10	ge Organics (D Result <49.8	RO) (GC) Qualifier U	49.8  RL 49.8	mg/Kg  Unit  mg/Kg		Prepared 06/07/22 08:15	06/08/22 10:33  Analyzed  06/07/22 14:50	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	ge Organics (D Result <49.8	RO) (GC) Qualifier U	49.8  RL 49.8  49.8	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 06/07/22 08:15	06/08/22 10:33  Analyzed  06/07/22 14:50  06/07/22 14:50	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	ge Organics (D Result <49.8 <49.8	RO) (GC) Qualifier U	49.8 RL 49.8 49.8 49.8	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 06/07/22 08:15 06/07/22 08:15	06/08/22 10:33  Analyzed 06/07/22 14:50 06/07/22 14:50	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36) Surrogate	ge Organics (D Result <49.8 <49.8 <49.8	RO) (GC) Qualifier U	49.8  RL 49.8  49.8  49.8  Limits	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 06/07/22 08:15 06/07/22 08:15 06/07/22 08:15 Prepared	Analyzed 06/07/22 14:50 06/07/22 14:50 Analyzed Analyzed	Dil Fa
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	ge Organics (D Result <49.8 <49.8 <49.8	RO) (GC) Qualifier U U Qualifier	49.8  49.8  49.8  49.8  49.8  Limits  70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 06/07/22 08:15 06/07/22 08:15 06/07/22 08:15  Prepared 06/07/22 08:15	06/08/22 10:33  Analyzed 06/07/22 14:50 06/07/22 14:50  Analyzed 06/07/22 14:50	Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	ge Organics (D Result <49.8 <49.8 <49.8  %Recovery 94 106  omatography -	RO) (GC) Qualifier U U Qualifier	49.8  49.8  49.8  49.8  49.8  Limits  70 - 130	mg/Kg  Unit  mg/Kg  mg/Kg		Prepared 06/07/22 08:15 06/07/22 08:15 06/07/22 08:15  Prepared 06/07/22 08:15	06/08/22 10:33  Analyzed 06/07/22 14:50 06/07/22 14:50  Analyzed 06/07/22 14:50	Dil Fac

Client Sample ID: BH01A Lab Sample ID: 890-2372-2

Date Collected: 06/02/22 12:50 Date Received: 06/03/22 14:20

Sample Depth: 2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		06/07/22 11:40	06/08/22 05:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			06/07/22 11:40	06/08/22 05:07	1

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**Matrix: Solid** 

2

3

4

6

8

10

12

1 /

Matrix: Solid

Lab Sample ID: 890-2372-2

06/08/22 04:12

# **Client Sample Results**

Client: Ensolum Job ID: 890-2372-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: BH01A

Date Collected: 06/02/22 12:50 Date Received: 06/03/22 14:20

Sample Depth: 2

Chloride

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	86		70 - 130			06/07/22 11:40	06/08/22 05:07	1
Method: Total BTEX - Total BTEX	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			06/08/22 12:08	1
- Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			06/08/22 10:33	1
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: 8015B NM - Diesel Rang	ie Organics (D	RO) (GC)						
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 15:13	1
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 15:13	1
C10-C28)				5 5				
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 15:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130			06/07/22 08:15	06/07/22 15:13	1
o-Terphenyl	92		70 - 130			06/07/22 08:15	06/07/22 15:13	1
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
		Qualifier	RL				Analyzed	

5.01

mg/Kg

163

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2372-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

		BFB1	DFBZ1	Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
880-15523-A-1-F MS	Matrix Spike	105	89	
880-15523-A-1-G MSD	Matrix Spike Duplicate	107	91	
890-2372-1	BH01	107	80	
890-2372-2	BH01A	93	86	
LCS 880-27007/1-A	Lab Control Sample	101	104	
LCSD 880-27007/2-A	Lab Control Sample Dup	101	101	
MB 880-26930/5-A	Method Blank	97	91	
MB 880-27007/5-A	Method Blank	103	90	

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2372-1	BH01	94	106	
890-2372-2	BH01A	83	92	
890-2376-A-101-B MS	Matrix Spike	86	84	
890-2376-A-101-C MSD	Matrix Spike Duplicate	84	80	
LCS 880-26968/2-A	Lab Control Sample	85	86	
LCSD 880-26968/3-A	Lab Control Sample Dup	75	74	
MB 880-26968/1-A	Method Blank	72	86	

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

Released to Imaging: 8/23/2022 9:42:55 AM

2

5

9

11

13

Client: Ensolum Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-26930/5-A

Lab Sample ID: MB 880-27007/5-A

**Matrix: Solid** 

**Analysis Batch: 26972** 

**Matrix: Solid** 

Analysis Batch: 26972

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 26930

1

Dil Fac

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		06/06/22 15:00	06/07/22 11:19	1
Toluene	<0.00200	U	0.00200	mg/Kg		06/06/22 15:00	06/07/22 11:19	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		06/06/22 15:00	06/07/22 11:19	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		06/06/22 15:00	06/07/22 11:19	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		06/06/22 15:00	06/07/22 11:19	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		06/06/22 15:00	06/07/22 11:19	1

MB MB

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

06/06/22 15:00 06/07/22 11:19 06/06/22 15:00 06/07/22 11:19

Analyzed

Prepared

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 27007

MR MR Analyte Result Qualifier RL Unit Prepared Analyzed Dil Fac Benzene <0.00200 U 0.00200 mg/Kg 06/07/22 11:40 06/07/22 21:56 Toluene <0.00200 U 0.00200 mg/Kg 06/07/22 11:40 06/07/22 21:56 Ethylbenzene <0.00200 U 0.00200 mg/Kg 06/07/22 11:40 06/07/22 21:56 0.00400 06/07/22 11:40 06/07/22 21:56 m-Xylene & p-Xylene <0.00400 U mg/Kg <0.00200 U 06/07/22 21:56 o-Xylene 0.00200 mg/Kg 06/07/22 11:40 Xylenes, Total <0.00400 U 0.00400 mg/Kg 06/07/22 11:40 06/07/22 21:56

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepai	red	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		70 - 130	06/07/22	11:40	06/07/22 21:56	1
1,4-Difluorobenzene (Surr)	90		70 - 130	06/07/22	11:40	06/07/22 21:56	1

Lab Sample ID: LCS 880-27007/1-A

**Matrix: Solid** 

**Analysis Batch: 26972** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA Prep Batch: 27007

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1001		mg/Kg		100	70 - 130	
Toluene	0.100	0.09532		mg/Kg		95	70 - 130	
Ethylbenzene	0.100	0.09610		mg/Kg		96	70 - 130	
m-Xylene & p-Xylene	0.200	0.1925		mg/Kg		96	70 - 130	
o-Xylene	0.100	0.09868		mg/Kg		99	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	101	70 _ 130
1.4-Difluorobenzene (Surr)	104	70 - 130

Lab Sample ID: LCSD 880-27007/2-A

**Matrix: Solid** 

**Analysis Batch: 26972** 

Client Sample	ID: La	b Contr	ol Sam	ple Dup
		Prep	Type:	Total/NA

Prep Batch: 27007

	Spike	LCSD LCSD				%Rec		RPD	
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.08068	mg/Kg		81	70 - 130	21	35	

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## QC Sample Results

Client: Ensolum Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

Lab Sample ID: LCSD 880-27007/2-A

**Matrix: Solid** 

Analysis Batch: 26972

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 27007

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toluene	0.100	0.07724		mg/Kg		77	70 - 130	21	35
Ethylbenzene	0.100	0.07992		mg/Kg		80	70 - 130	18	35
m-Xylene & p-Xylene	0.200	0.1613		mg/Kg		81	70 - 130	18	35
o-Xylene	0.100	0.08325		mg/Kg		83	70 - 130	17	35

LCSD LCSD

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

Lab Sample ID: 880-15523-A-1-F MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

o-Xylene

**Analysis Batch: 26972** 

Prep Type: Total/NA

Prep Batch: 27007

MS MS %Rec Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Benzene <0.00199 U F1 0.100 0.03500 F1 35 70 - 130 mg/Kg Toluene <0.00199 UF1 0.100 0.03846 F1 38 70 - 130 mg/Kg Ethylbenzene 0.100 43 70 - 130 <0.00199 UF1 0.04263 F1 mg/Kg 0.200 m-Xylene & p-Xylene <0.00398 UF1 0.08879 F1 44 70 - 130 mg/Kg

0.04822 F1

mg/Kg

0.100

MS MS

<0.00199 UF1

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	105	70 - 130
1,4-Difluorobenzene (Surr)	89	70 - 130

Lab Sample ID: 880-15523-A-1-G MSD

**Matrix: Solid** 

Analysis Batch: 26972

Client Sample ID: Matrix Spike Duplicate

70 - 130

48

Prep Type: Total/NA

Prep Batch: 27007

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U F1	0.0998	0.04180	F1	mg/Kg		42	70 - 130	18	35
Toluene	<0.00199	U F1	0.0998	0.04471	F1	mg/Kg		45	70 - 130	15	35
Ethylbenzene	<0.00199	U F1	0.0998	0.04699	F1	mg/Kg		47	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U F1	0.200	0.09732	F1	mg/Kg		49	70 - 130	9	35
o-Xylene	<0.00199	U F1	0.0998	0.05097	F1	mg/Kg		51	70 - 130	6	35

MSD MSD

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

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

Lab Sample ID: MB 880-26968/1-A

**Matrix: Solid** 

Analysis Batch: 26955

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

Prep Batch: 26968

мв мв Result Qualifier RL Unit Prepared Gasoline Range Organics <50.0 U 50.0 mg/Kg 06/07/22 08:15 06/07/22 10:51

(GRO)-C6-C10

Client: Ensolum Job ID: 890-2372-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

Lab Sample ID: MB 880-26968/1-A

Matrix: Solid

Analysis Batch: 26955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 26968

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 10:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/07/22 08:15	06/07/22 10:51	1
	МВ	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130			06/07/22 08:15	06/07/22 10:51	1
o-Ternhenyl	86		70 130			06/07/22 08:15	06/07/22 10:51	1

Lab Sample ID: LCS 880-26968/2-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA Prep Batch: 26968 **Analysis Batch: 26955** LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline Range Organics 1000 810.3 81 70 - 130 mg/Kg (GRO)-C6-C10 1000 1021 Diesel Range Organics (Over mg/Kg 102 70 - 130 C10-C28) LCS LCS Qualifier Limits Surrogate %Recovery

1-Chlorocotane 85 70 - 130
o-Terphenyl 86 70 - 130

Lab Sample ID: LCSD 880-26968/3-A
Matrix: Solid Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analysis Batch: 26955 Prep Batch: 26968 Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Limits RPD Limit Unit D %Rec Gasoline Range Organics 1000 727.7 73 70 - 130 20 mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 863.1 mg/Kg 86 70 - 130 17 20

 Surrogate
 %Recovery
 Qualifier
 Limits

 1-Chlorooctane
 75
 70 - 130

 o-Terphenyl
 74
 70 - 130

Lab Sample ID: 890-2376-A-101-B MS

Matrix: Solid

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

Analysis Batch: 26955

Sample Sample Spike MS MS %Rec

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<49.9	U F1	997	677.2	F1	mg/Kg		68	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	60.3		997	814.5		mg/Kg		76	70 - 130	
C10-C28)										

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	84		70 - 130

MS MS

**Eurofins Carlsbad** 

C10-C28)

Lab Sample ID: 890-2376-A-101-C MSD

# QC Sample Results

Client: Ensolum Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample Dup

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike Duplicate

Prep Batch: 26968

	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 F1	1000	672.4	F1	mg/Kg		67	70 - 130	1	20
(GRO)-C6-C10											
Diesel Range Organics (Over	60.3		1000	791.9		mg/Kg		73	70 - 130	3	20
C10-C28)											

Limits

70 - 130

70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-26916/1-A

**Matrix: Solid** 

**Analysis Batch: 27058** 

мв мв

MSD MSD %Recovery Qualifier

84

80

Result Qualifier Unit Analyte RL Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 06/08/22 00:30

Lab Sample ID: LCS 880-26916/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Soluble** 

**Matrix: Solid** 

Surrogate

o-Terphenyl

1-Chlorooctane

Analysis Batch: 26955

**Analysis Batch: 27058** 

	Spike	LCS	LCS			%Rec	
Analyte	Added	Result	Qualifier Unit	D	%Rec	Limits	
Chloride	250	254.8	mg/Kg		102	90 - 110	. ——

Lab Sample ID: LCSD 880-26916/3-A

**Matrix: Solid** 

**Analysis Batch: 27058** 

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	254.5		mg/Kg	_	102	90 - 110	0	20

Lab Sample ID: 890-2368-A-43-D MS

**Matrix: Solid** 

**Analysis Batch: 27058** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	74.6		250	332.5		ma/Ka		103	90 110	

Lab Sample ID: 890-2368-A-43-E MSD

**Matrix: Solid** 

Analysis Batch: 27058											
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	74.6		250	324.9		mg/Kg		100	90 - 110	2	20

# **QC Association Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2372-1 SDG: 03E1558057

**GC VOA** 

Prep Batch: 26930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-26930/5-A	Method Blank	Total/NA	Solid	5035	

#### Analysis Batch: 26972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	8021B	27007
890-2372-2	BH01A	Total/NA	Solid	8021B	27007
MB 880-26930/5-A	Method Blank	Total/NA	Solid	8021B	26930
MB 880-27007/5-A	Method Blank	Total/NA	Solid	8021B	27007
LCS 880-27007/1-A	Lab Control Sample	Total/NA	Solid	8021B	27007
LCSD 880-27007/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	27007
880-15523-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	27007
880-15523-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	27007

#### Prep Batch: 27007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	5035	<del>_</del> -
890-2372-2	BH01A	Total/NA	Solid	5035	
MB 880-27007/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-27007/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-27007/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-15523-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
880-15523-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### **Analysis Batch: 27092**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	Total BTEX	
890-2372-2	BH01A	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Analysis Batch: 26955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	8015B NM	26968
890-2372-2	BH01A	Total/NA	Solid	8015B NM	26968
MB 880-26968/1-A	Method Blank	Total/NA	Solid	8015B NM	26968
LCS 880-26968/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	26968
LCSD 880-26968/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	26968
890-2376-A-101-B MS	Matrix Spike	Total/NA	Solid	8015B NM	26968
890-2376-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	26968

#### Prep Batch: 26968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	8015NM Prep	
890-2372-2	BH01A	Total/NA	Solid	8015NM Prep	
MB 880-26968/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-26968/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-26968/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2376-A-101-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2376-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

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# **QC Association Summary**

Client: Ensolum Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### GC Semi VOA

#### Analysis Batch: 27081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Total/NA	Solid	8015 NM	
890-2372-2	BH01A	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 26916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Soluble	Solid	DI Leach	
890-2372-2	BH01A	Soluble	Solid	DI Leach	
MB 880-26916/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-26916/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-26916/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2368-A-43-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2368-A-43-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 27058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2372-1	BH01	Soluble	Solid	300.0	26916
890-2372-2	BH01A	Soluble	Solid	300.0	26916
MB 880-26916/1-A	Method Blank	Soluble	Solid	300.0	26916
LCS 880-26916/2-A	Lab Control Sample	Soluble	Solid	300.0	26916
LCSD 880-26916/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	26916
890-2368-A-43-D MS	Matrix Spike	Soluble	Solid	300.0	26916
890-2368-A-43-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	26916

Client: Ensolum

Job ID: 890-2372-1 SDG: 03E1558057

**Client Sample ID: BH01** Lab Sample ID: 890-2372-1 Date Collected: 06/02/22 12:45

Matrix: Solid

Date Received: 06/03/22 14:20

Project/Site: Pierce Canyon 3 SWD

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	27007	06/07/22 11:40	MR	XEN MID
Total/NA	Analysis	8021B		1			26972	06/08/22 04:46	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27092	06/08/22 12:08	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27081	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 14:50	SM	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	26916	06/06/22 11:48	SC	XEN MID
Soluble	Analysis	300.0		1			27058	06/08/22 03:44	CH	XEN MID

Client Sample ID: BH01A Lab Sample ID: 890-2372-2

Date Collected: 06/02/22 12:50 Matrix: Solid

Date Received: 06/03/22 14:20

	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	27007	06/07/22 11:40	MR	XEN MID
Total/NA	Analysis	8021B		1			26972	06/08/22 05:07	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			27092	06/08/22 12:08	SM	XEN MID
Total/NA	Analysis	8015 NM		1			27081	06/08/22 10:33	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	26968	06/07/22 08:15	DM	XEN MID
Total/NA	Analysis	8015B NM		1			26955	06/07/22 15:13	SM	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	26916	06/06/22 11:48	SC	XEN MID
Soluble	Analysis	300.0		1			27058	06/08/22 04:12	CH	XEN MID

**Laboratory References:** 

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2372-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **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	T104704400-21-22	06-30-22
The following analytes the agency does not of		ut 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: Pierce Canyon 3 SWD

Job ID: 890-2372-1

SDG: 03E1558057

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

#### **Protocol References:**

ASTM = ASTM International

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

**Eurofins Carlsbad** 

Released to Imaging: 8/23/2022 9:42:55 AM

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# **Sample Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2372-1

SDG: 03E1558057

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2372-1	BH01	Solid	06/02/22 12:45	06/03/22 14:20	1
890-2372-2	BH01A	Solid	06/02/22 12:50	06/03/22 14:20	2

Circle Method(s)

Total 200.7 /

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# eurofins

Xenco **Environment Testing** 

# Chain of Custody

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

211 500 3355	Tarab belill associated		1				Deliverables: EDD	es: EDD	ADaPT	Other:
844-500-///5	Email:   <u>bbellil(@ensolum.com</u>	um.co								
Pierce Canyon 3 SWD	Turn Around					ANALYS	ANALYSIS REQUEST		Pro	Preservative Codes
03E1558057	✓ Routine	Code							None: NO	IO DI Water: H <sub>2</sub> O
32.1547, -103.86435 Rual Eddy	Due Date: 5 Days	-							Cool: Cool	_
Pride Evans	TAT starts the day received by					-	-	_	HCL: HC	
CC: 1667681001	the lab, if received by 4:30pm	rs							H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	H <sub>2</sub> NaOH: Na
IPT   Jemp Blank: Yes No	Wet Ice: Yes No	nete	.0)						H <sub>3</sub> PO <sub>4</sub> : HP	HP
Intact: Yes NO Thermometer ID:	er ID: NVM.JOS	ran	300.						NaHSO,	NaHSO <sub>4</sub> : NABIS
Yes No NIA	actor:	Pa	PA:			MILITARIA I			Ne <sub>2</sub> S <sub>2</sub> O	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>
als: Yes No NA Temperature Reading	Reading 2. a		6 (E		_	090-2372	890-2372 Chain of Custody		Zn Aceta	Zn Acetate+NaOH: Zn
	emperature:   る・O		IDES	)15)	8021	 _ _	- -	-	NaOH+/	NaOH+Ascorbic Acid: SAPC
ntification Matrix Sampled	Time Depth Grab/	/ # of	CHLOR	TPH (80	BTEX (				Sa	Sample Comments
01 S 6/2/2022	12:45 1' Grab	1	×	×	×				Inc ID:	Inc ID: NAPP2209446613
S	12:50 2' Grab	1	×	×	×					
								-		
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1010 200.8 / 6020: 8I	8RCRA 13PPM Texas 11		Al Sb As Ba	Ва Ве	œ	Cd Ca Cr Co Cu Fe	Fe Pb Mg Mn N	Pb Mg Mn Mo Ni K Se Ag SiO <sub>2</sub> Na Sr Tl Sn U V Zn	SiO <sub>2</sub> Na Sr TI	Sn U V Zn
and Metal(s) to be analyzed	TCLP / SPLP 6010: 8RCRA		Sb A	s Ba	Be Co	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U	n Mo Ni Se Ag		Hg: 1631 / 245.1 / 7470 / 7471	7470 / 7471
s document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard ter	stitutes a valid purchase order fro	m client	company	to Euro	ins Xeno	o, its affiliates and subco	ontractors. It assigns st	andard terms and conditions	itions	
nco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the cilent if such losses are due to circumstances beyond the control inimum 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 negotiate.	nd shall not assume any responsi project and a charge of \$5 for ea	oility for a ch sample	iny losse e submitt	ed to Eu	enses in	urred by the client if suc nco, but not analyzed. The	h losses are due to circu hese terms will be enforc	umstances beyond the control ced unless previously negotiated.	egotiated.	
v: (Signature) Received	Received by: (Signature)		Date/Time	Time		Relinquished by: (Signature)	(Signature)	Received by: (Signature)	Signature)	Date/Time

SAMPLE RECI

Samples Received

cooler Custody Se

ample Custody So

otal Containers

Sample Ide

Sampler's Name

roject Location:

Project Number Project Name: Phone:

City, State ZIP:

Carlsbad, NM, 88220

3122 National Parks Highway, Carlsbad,

Z

City, State ZIP:

Carlsbad, NM 88220 3104 E. Green Street XTO Energy, Inc. Adrian Baker

Reporting: Level III 🔲 Level III 🔲 PST/UST 🗎 TRRP 🔲

Level IV

State of Project:

Program: UST/PST 🗌 PRP 🗌 Brownfields 🗌 RRC 🗌 Superfund 🗎

**Work Order Comments** 

1 of 1

Bill to: (if different) Company Name

ddress

Project Manager:

Ben Belill

Company Name:

Ensolum

Work Order No:

Revised Date 08/25/2020 Rev. 2020 :

6/3/2022

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2372-1 SDG Number: 03E1558057

Login Number: 2372 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

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

#### **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-2372-1 SDG Number: 03E1558057

List Source: Eurofins Midland

List Creation: 06/07/22 12:08 PM

Login Number: 2372 List Number: 2

Creator: Rodriguez, Leticia

Sample Preservation Verified.

MS/MSDs

<6mm (1/4").

There is sufficient vol. for all requested analyses, incl. any requested

Containers requiring zero headspace have no headspace or bubble is

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

N/A

True

N/A

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# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2474-1

Laboratory Sample Delivery Group: 03E1558057

Client Project/Site: Pierce Canyon 3 SWD

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

MAMER

Authorized for release by: 7/8/2022 11:13:40 AM

Jessica Kramer, Project Manager (432)704-5440

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

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



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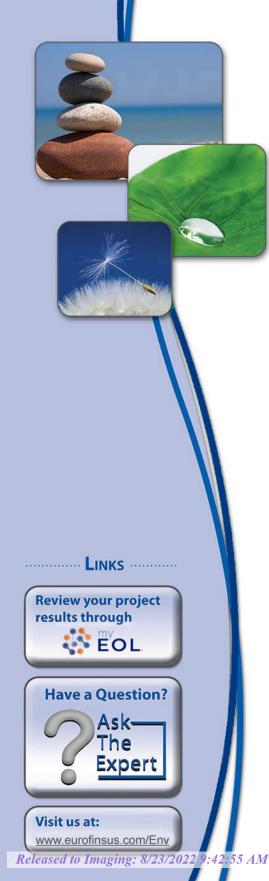
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Client: Ensolum Laboratory Job ID: 890-2474-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

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### **Definitions/Glossary**

Client: Ensolum Job ID: 890-2474-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Qualifiers**

#### **GC VOA**

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

Ouglifier Description

#### **GC Semi VOA** Ouglifier

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

#### **HPLC/IC**

ifier Description
lifier Descriptio

U Indicates the analyte was analyzed for but not detected.

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCI	FDA recommended "Mayimum Conteminant Lovel"

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

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present **PQL Practical Quantitation Limit** 

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

**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: Pierce Canyon 3 SWD

Job ID: 890-2474-1

SDG: 03E1558057

Job ID: 890-2474-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2474-1

#### Receipt

The sample was received on 6/28/2022 10:00 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-28738 and analytical batch 880-28713 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD\_NM: The matrix spike (MS) recoveries for preparation batch 880-28738 and analytical batch 880-28713 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-2474-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2474-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: SS04

Date Collected: 06/27/22 13:30 Date Received: 06/28/22 10:00

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00199	U	0.00199	mg/Kg		07/01/22 15:28	07/07/22 18:11	
Toluene	<0.00199	U	0.00199	mg/Kg		07/01/22 15:28	07/07/22 18:11	
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		07/01/22 15:28	07/07/22 18:11	
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		07/01/22 15:28	07/07/22 18:11	
o-Xylene	<0.00199	U	0.00199	mg/Kg		07/01/22 15:28	07/07/22 18:11	
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		07/01/22 15:28	07/07/22 18:11	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	117		70 - 130			07/01/22 15:28	07/07/22 18:11	
1,4-Difluorobenzene (Surr)	101		70 - 130			07/01/22 15:28	07/07/22 18:11	
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Method: 8015 NM - Diesel Range	Organics (DR	O) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			07/01/22 13:31	
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 01:45	
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		06/30/22 10:13	07/01/22 01:45	
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 01:45	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	91		70 - 130			06/30/22 10:13	07/01/22 01:45	
o-Terphenyl	101		70 - 130			06/30/22 10:13	07/01/22 01:45	
Method: 300.0 - Anions, Ion Chro								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
	42.7		4.99	mg/Kg			07/04/22 17:21	

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2474-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
390-2474-1	SS04	117	101	
890-2475-A-1-G MS	Matrix Spike	110	102	
890-2475-A-1-H MSD	Matrix Spike Duplicate	109	99	
LCS 880-28904/1-A	Lab Control Sample	107	101	
LCSD 880-28904/2-A	Lab Control Sample Dup	107	100	
MB 880-28904/5-A	Method Blank	96	87	
Surrogate Legend				

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)
890-2471-A-21-B MS	Matrix Spike	89	96
890-2471-A-21-C MSD	Matrix Spike Duplicate	102	109
890-2474-1	SS04	91	101
LCS 880-28738/2-A	Lab Control Sample	89	94
LCSD 880-28738/3-A	Lab Control Sample Dup	81	76
MB 880-28738/1-A	Method Blank	104	122

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-2474-1 SDG: 03E1558057 Project/Site: Pierce Canyon 3 SWD

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28904/5-A

**Matrix: Solid Analysis Batch: 29172**  Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28904

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	07/01/22 15.	28 07/07/22 12:00	1
1,4-Difluorobenzene (Surr)	87		70 - 130	07/01/22 15.	28 07/07/22 12:00	1

Lab Sample ID: LCS 880-28904/1-A

Matrix: Solid

Analysis Batch: 29172

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

Prep Batch: 28904

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1014		mg/Kg		101	70 - 130	
Toluene	0.100	0.09844		mg/Kg		98	70 - 130	
Ethylbenzene	0.100	0.1029		mg/Kg		103	70 - 130	
m-Xylene & p-Xylene	0.200	0.2124		mg/Kg		106	70 - 130	
o-Xylene	0.100	0.1048		mg/Kg		105	70 - 130	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-28904/2-A

Matrix: Solid

**Analysis Batch: 29172** 

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

Prep Type: Total/NA

Prep Batch: 28904

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1049		mg/Kg		105	70 - 130	3	35	
Toluene	0.100	0.1030		mg/Kg		103	70 - 130	5	35	
Ethylbenzene	0.100	0.1077		mg/Kg		108	70 - 130	5	35	
m-Xylene & p-Xylene	0.200	0.2212		mg/Kg		111	70 - 130	4	35	
o-Xylene	0.100	0.1094		mg/Kg		109	70 - 130	4	35	

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-2475-A-1-G MS

**Matrix: Solid** 

Analysis Batch: 29172

Client Sample ID: Matrix Sp	ke
Prep Type: Total/	NA

Prep Batch: 28904

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.101	0.09951		mg/Kg		99	70 - 130	
Toluene	<0.00201	U	0.101	0.09548		mg/Kg		95	70 - 130	

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Prep Batch: 28904

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

70 - 130

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### **QC Sample Results**

Client: Ensolum Job ID: 890-2474-1 SDG: 03E1558057 Project/Site: Pierce Canyon 3 SWD

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

Lab Sample ID: 890-2475-A-1-G MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 29172** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00201	U	0.101	0.09892		mg/Kg		98	70 - 130	
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2043		mg/Kg		101	70 - 130	
o-Xylene	<0.00201	U	0.101	0.1009		mg/Kg		100	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	110	70 - 130
1,4-Difluorobenzene (Surr)	102	70 - 130

Lab Sample ID: 890-2475-A-1-H MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 29172									Prep	Batch:	28904
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U	0.100	0.09182		mg/Kg		92	70 - 130	8	35
Toluene	<0.00201	U	0.100	0.08800		mg/Kg		88	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.100	0.08801		mg/Kg		88	70 - 130	12	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1817		mg/Kg		91	70 - 130	12	35
o-Xylene	<0.00201	U	0.100	0.09018		mg/Kg		90	70 - 130	11	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-28738/1-A

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Matrix: Solid							Prep Type:	Total/NA
Analysis Batch: 28713							Prep Bato	ch: 28738
	MB	MB						
Amalista	Daguile	Ovelifier	DI.	l lmi4	_	Duamanad	A made mad	Dil Fee

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104	70 - 130	06/30/22 10:13	06/30/22 22:11	1
o-Terphenyl	122	70 - 130	06/30/22 10:13	06/30/22 22:11	1

Lab Sample ID: LCS 880-28738/2-A

Diesel Range Organics (Over

Matrix: Solid							Prep Type: Total/NA
Analysis Batch: 28713							Prep Batch: 28738
	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1108		mg/Kg		111	70 - 130

1029

mg/Kg

C10-C28)

(GRO)-C6-C10

**Eurofins Carlsbad** 

Job ID: 890-2474-1

Client: Ensolum Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

LCS LCS

Lab Sample ID: LCS 880-28738/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

Analysis Batch: 28713

Prep Type: Total/NA

Prep Batch: 28738

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 89 70 - 130 o-Terphenyl 94 70 - 130

Lab Sample ID: LCSD 880-28738/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 28713

Prep Type: Total/NA

Prep Batch: 28738

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 1198 120 70 - 1308 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 83 834.5 \*1 mg/Kg 70 - 13021 20 C10-C28)

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 81 76 70 - 130 o-Terphenyl

Lab Sample ID: 890-2471-A-21-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

MS MS Sample Sample Spike Added Analyte Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 996 787.7 mg/Kg 79 70 - 130 (GRO)-C6-C10 <49.9 U \*1 F1 Diesel Range Organics (Over 996 670.8 F1 mg/Kg 67 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 89 o-Terphenyl 96 70 - 130

Lab Sample ID: 890-2471-A-21-C MSD Client Sample ID: Matrix Spike Duplicate **Matrix: Solid** 

Analysis Batch: 28713

Prep Type: Total/NA

Prep Batch: 28738

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit <49.9 U 996 876.4 88 Gasoline Range Organics mg/Kg 70 - 130 11 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*1F1 996 767.3 mg/Kg 77 70 - 130 13 20 C10-C28)

MSD MSD

Qualifier Surrogate %Recovery Limits 1-Chlorooctane 102 70 - 130 109 70 - 130 o-Terphenyl

## QC Sample Results

Job ID: 890-2474-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

Client Sample ID: Method Blank

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28633/1-A

**Matrix: Solid** 

Analysis Batch: 28885

**Prep Type: Soluble** 

MB MB Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 07/04/22 13:12

Lab Sample ID: LCS 880-28633/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 28885** 

Spike LCS LCS %Rec Added %Rec Analyte Result Qualifier Unit D Limits

Chloride 250 229.1 mg/Kg 92 90 - 110

Lab Sample ID: LCSD 880-28633/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 28885

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 230.3 mg/Kg 90 - 110

Lab Sample ID: 890-2471-A-11-D MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 28885** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added %Rec Result Qualifier Unit Limits Chloride 34.7 250 284.5 100 90 - 110 mg/Kg

Lab Sample ID: 890-2471-A-11-E MSD

**Matrix: Solid** 

Analysis Batch: 28885

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 250 Chloride 34.7 290.4 mg/Kg 102 90 - 110 20

# **QC Association Summary**

Client: Ensolum Job ID: 890-2474-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

**GC VOA** 

Prep Batch: 28904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	5035	
MB 880-28904/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	8021B	28904
MB 880-28904/5-A	Method Blank	Total/NA	Solid	8021B	28904
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	8021B	28904
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28904
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	28904
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	28904

Analysis Batch: 29274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 28713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	8015B NM	28738
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015B NM	28738
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28738
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28738
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	28738
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28738

Prep Batch: 28738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 28876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Soluble	Solid	DI Leach	- · · · · · · · · · · · · · · · · · · ·
MB 880-28633/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

# **QC Association Summary**

Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Job ID: 890-2474-1
SDG: 03E1558057

**HPLC/IC** (Continued)

Leach Batch: 28633 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

**Analysis Batch: 28885** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2474-1	SS04	Soluble	Solid	300.0	28633
MB 880-28633/1-A	Method Blank	Soluble	Solid	300.0	28633
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	300.0	28633
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28633
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	28633
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	28633

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#### Lab Chronicle

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2474-1

SDG: 03E1558057

Client Sample ID: SS04 Lab Sample ID: 890-2474-1

Date Collected: 06/27/22 13:30 Matrix: Solid
Date Received: 06/28/22 10:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	28904	07/01/22 15:28	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29172	07/07/22 18:11	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			29274	07/08/22 10:17	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			28876	07/01/22 13:31	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28738	06/30/22 10:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28713	07/01/22 01:45	SM	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	28633	06/29/22 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			28885	07/04/22 17:21	CH	XEN MID

#### Laboratory References:

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

**Eurofins Carlsbad** 

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# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2474-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	rogram	Identification Number	<b>Expiration Date</b>
Texas	NI	ELAP	T104704400-22-23	06-30-23
The following analytes the agency does not of		ut 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 Job ID: 890-2474-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

#### **Protocol References:**

ASTM = ASTM International

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

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# Sample Summary

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2474-1

SDG: 03E1558057

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2474-1	SS04	Solid	06/27/22 13:30	06/28/22 10:00	0.5'

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eurofins

Project Manager: Company Name:

3122 National parks Hwy

Address:

3104 E. Green Street XTO Energy, Inc. Garrett Green

State of Project:

Program: UST/PST 🗌 PRP 🗌 Brownfields 🗍 RRC 📗 Superfund 📗

Bill to: (if different) Company Name:

Ensolum, LLC Ben Belill

# Chain of Custody

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

Work Order Commen	www,xenco.com
mments	Page1_
	of 1

Work Order No:

	Olize Manorial banks (144)		Addieso.	5	2 6		200 14		Reporting: Level II   Level III   PST/UST   TRRP   Level IV
City, State ZIP:	Carlsbad, NM 88220		City, State ZIP	717	Carr	Carispad, NW 00220	700 IAI		
Phone:	9898540852		Email: bbelill@ensolum.com	nsolum.c	iom			Delivera	Deliverables: EDD L. ADaPI L. Other:
Project Name:	Pierce Canyon 3 SWD	6	Turn Around					ANALYSIS REQUEST	Preservative Codes
Project Number:	03E1558057		Routine 🗌 Rush	Code	÷ .				None: NO DI Water: H <sub>2</sub> O
Project Location:	EDDY COUNTY, NM		Due Date:						<u>u</u>
Sampler's Name:	Kase Parker		TAT starts the day received by	d by					
PO#		the	the lab, if received by 4:30pm						H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na
SAMPLE RECEIPT	Temp Stank:	Yes No We	Wet Ice: (res)	No	-			-	H₃PO₄: HP
Samples Received Intact:	No No	릴	₹						NaHSO4: NABIS
Cooler Custody Seals:	Yes No MA	Correction Factor:	- <b>6</b> -	Pa					Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> . NaSO <sub>3</sub>
Sample Custody Seals:	Yes No NIA	Temperature Reading:	5	6	s (E	_			Zn Acetate+NaOH: Zn
Total Containers:	(	Corrected Temperature:	S	+	IDE	)15)	8021	890-2474 Chair and Millian Mill	NaOH+Ascorbic Acid: SAPC
Sample Identification	Matrix	Date T Sampled Sar	Time Depth	Grab/ # of Comp Cont	⊋ <sup>⊆</sup> CHLOF	TPH (8	втех (	- Chair of Custody	Sample Comments
SS04	S	6/27/2022 / 3	330 0.5'	Grab/ 1	×	×	×		Cost Center: 1667681001
						111			Incident Numbers: NAPP2209446613
				$\vdash$	+	$\dagger \dagger$	$\sqcap$		
				+	+	+			
Total 200.7 / 6010	)10 200.8 / 6020:	8RCRA	RA 13PPM Texas 11 Al Sb As	IS 11 A	A SP A	s Ba	Be B	Sh As Ba Be B Cd Ca Cr Co Cu Fe Ph Mg Mn Mo	Mo Ni K Se Ag SiO₂ Na Sr TI Sn ∪ V Zn Ag TI ∪ Ho:1631/245.1/7470/7471
Circle Metriod(3) ar	Circle Metriod(s) and Metai(s) to be analyzon								
Notice: Signature of this of service. Eurofins Xencof Eurofins Xencof Eurofins Xencof A min	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. 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 at of Eurofins Xenco, will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms	imples constitutes samples and shall lied to each project	a valid purchase orde not assume any respo and a charge of \$5 for	r from clien nsibility for each samp	t compar rany loss ole submi	y to Eur es or ex tted to E	ofins Xe penses urofins		It assigns standard terms and conditions e due to circumstances beyond the control will be enforced unless previously negotiated.
Rejińguished by: (S	r. (Signature)	Received by: (Signature)	(Signature)		Dat	Date/Time		Relinquished by: (Signature)	Received by: (Signature) Date/Time
Mhus	2	aprada	Start	1	clack	63	942	9	
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# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2474-1 SDG Number: 03E1558057

Login Number: 2474 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2474-1

SDG Number: 03E1558057

Login Number: 2474 **List Source: Eurofins Midland** List Number: 2 List Creation: 06/29/22 10:55 AM

Creator: Rodriguez, Leticia

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

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<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2475-1

Laboratory Sample Delivery Group: 03E1558057

Client Project/Site: Pierce Canyon 3 SWD

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

MRAMER

Authorized for release by 7/8/2022 11:13:40 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

Review your project results through

EOL

Have a Question?

Ask
The

..... LINKS ......

Visit us at:

www.eurofinsus.com/Env
Released to Imaging: 8/23/2022 9:42:55 AM

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

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

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Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Laboratory Job ID: 890-2475-1
SDG: 03E1558057

# **Table of Contents**

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#### **Definitions/Glossary**

Job ID: 890-2475-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Qualifiers**

#### **GC VOA**

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

#### GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.

F1 MS and/or MSD recovery exceeds control limits.

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.
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Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery CFL Contains Free Liquid CFU Colony Forming Unit CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor** 

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

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

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

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present **PQL Practical Quantitation Limit** 

**PRES** Presumptive

QC **Quality Control** 

**RER** Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2475-1

SDG: 03E1558057

Job ID: 890-2475-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2475-1

#### Receipt

The sample was received on 6/28/2022 9:49 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-28738 and analytical batch 880-28713 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD\_NM: The matrix spike (MS) recoveries for preparation batch 880-28738 and analytical batch 880-28713 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-2475-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2475-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: SS03

Date Collected: 06/27/22 13:25 Date Received: 06/28/22 09:49

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		07/01/22 15:28	07/07/22 12:21	
Toluene	<0.00201	U	0.00201	mg/Kg		07/01/22 15:28	07/07/22 12:21	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		07/01/22 15:28	07/07/22 12:21	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		07/01/22 15:28	07/07/22 12:21	
o-Xylene	<0.00201	U	0.00201	mg/Kg		07/01/22 15:28	07/07/22 12:21	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		07/01/22 15:28	07/07/22 12:21	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	110		70 - 130			07/01/22 15:28	07/07/22 12:21	
1,4-Difluorobenzene (Surr)	97		70 - 130			07/01/22 15:28	07/07/22 12:21	
- Method: Total BTEX - Total BTE)	( Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00402	U	0.00402	mg/Kg			07/08/22 10:17	
Analyte		Qualifier	RL 40.0	Unit	<u>D</u>	Prepared	Analyzed	Dil Fa
Analyte Total TPH			49.9	mg/Kg	D	Prepared	07/01/22 13:31	Dil Fac
-								
Method: 8015B NM - Diesel Rang	ge Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:07	•
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:07	•
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:07	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	99		70 - 130			06/30/22 10:13	07/01/22 02:07	
o-Terphenyl	110		70 - 130			06/30/22 10:13	07/01/22 02:07	
Method: 300.0 - Anions, Ion Chro	omatography -	Soluble						
Analysta	Popult	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Analyte	Result	Qualifier	INL.	Ollit		riepareu	Analyzeu	Diria

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Rec
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2475-1	SS03	110	97	
890-2475-1 MS	SS03	110	102	
890-2475-1 MSD	SS03	109	99	
LCS 880-28904/1-A	Lab Control Sample	107	101	
LCSD 880-28904/2-A	Lab Control Sample Dup	107	100	
MB 880-28904/5-A	Method Blank	96	87	
Surrogate Legend				
BFB = 4-Bromofluorober	nzene (Surr)			
DFBZ = 1.4-Difluorobenz	zene (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)
890-2471-A-21-B MS	Matrix Spike	89	96
890-2471-A-21-C MSD	Matrix Spike Duplicate	102	109
890-2475-1	SS03	99	110
LCS 880-28738/2-A	Lab Control Sample	89	94
LCSD 880-28738/3-A	Lab Control Sample Dup	81	76
MB 880-28738/1-A	Method Blank	104	122

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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#### **QC Sample Results**

Client: Ensolum Job ID: 890-2475-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28904/5-A

Lab Sample ID: LCS 880-28904/1-A

Matrix: Solid Analysis Batch: 29172 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28904

	МВ	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	07/01/22 15:28	07/07/22 12:00	1
1,4-Difluorobenzene (Surr)	87		70 - 130	07/01/22 15:28	07/07/22 12:00	1

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28904

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits mg/Kg Benzene 0.100 0.1014 101 70 - 130 0.09844 Toluene 0.100 mg/Kg 98 70 - 130 0.100 Ethylbenzene 0.1029 mg/Kg 103 70 - 130 0.200 0.2124 106 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.1048 70 - 130 o-Xylene mg/Kg 105

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-28904/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

**Matrix: Solid** 

**Analysis Batch: 29172** 

**Analysis Batch: 29172** 

Prep Type: Total/NA Prep Batch: 28904

RPD LCSD LCSD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Limit Benzene 0.100 0.1049 mg/Kg 105 70 - 130 3 35 Toluene 0.100 0.1030 mg/Kg 103 70 - 130 5 35 Ethylbenzene 0.100 0.1077 mg/Kg 108 70 - 130 5 35 0.200 m-Xylene & p-Xylene 0.2212 mg/Kg 111 70 - 130 35 0.100 0.1094 o-Xylene mg/Kg 109 70 - 130 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-2475-1 MS

Matrix: Solid

Analysis Batch: 29172

Client Sample ID: SS03
Prep Type: Total/NA

Prep Batch: 28904

_	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.101	0.09951		mg/Kg		99	70 - 130	 
Toluene	<0.00201	U	0.101	0.09548		mg/Kg		95	70 - 130	

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# QC Sample Results

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

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

Lab Sample ID: 890-2475-1 MS **Matrix: Solid** 

**Analysis Batch: 29172** 

**Client Sample ID: SS03** Prep Type: Total/NA Prep Batch: 28904

	Sample	Sample	Spike	MS	MS				%Rec
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Ethylbenzene	<0.00201	U	0.101	0.09892		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2043		mg/Kg		101	70 - 130
o-Xylene	<0.00201	U	0.101	0.1009		mg/Kg		100	70 - 130

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	110	70 - 130
1,4-Difluorobenzene (Surr)	102	70 - 130

Lab Sample ID: 890-2475-1 MSD

**Matrix: Solid** 

**Analysis Batch: 29172** 

Client Sample ID: SS03 Prep Type: Total/NA Prep Batch: 28904 Sample Sample Spike MSD MSD

Result Qualifier Added Result Qualifier %Rec RPD Limit Analyte Unit Limits 0.100 Benzene <0.00201 U 0.09182 mg/Kg 92 70 - 130 8 35 0.08800 Toluene <0.00201 U 0.100 mg/Kg 88 70 - 130 8 35 Ethylbenzene <0.00201 U 0.100 0.08801 88 70 - 130 12 35 mg/Kg 0.200 0.1817 70 - 130 35 m-Xylene & p-Xylene <0.00402 U mg/Kg 12 <0.00201 U 0.100 0.09018 70 - 130 o-Xylene mg/Kg 90 11

MSD MSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	109	70 - 130
1,4-Difluorobenzene (Surr)	99	70 - 130

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

Lab Sample ID: MB 880-28738/1-A

**Matrix: Solid** 

Prep Type: Total/NA Analysis Batch: 28713 Prep Batch: 28738 MB MB Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac 50.0 06/30/22 10:13 06/30/22 22:11 <50.0 U mg/Kg

Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over 50.0 06/30/22 10:13 06/30/22 22:11 <50.0 U mg/Kg C10-C28) Oll Range Organics (Over C28-C36) <50.0 U 50.0 06/30/22 10:13 06/30/22 22:11 mg/Kg

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	06/30/22 10:13	06/30/22 22:11	1
o-Terphenyl	122		70 - 130	06/30/22 10:13	06/30/22 22:11	1

Lab Sample ID: LCS 880-28738/2-A

**Matrix: Solid** 

Analysis Batch: 28713							Prep	Batch: 28738
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	1000	1108		mg/Kg		111	70 - 130	
(GRO)-C6-C10								
Diesel Range Organics (Over	1000	1029		mg/Kg		103	70 - 130	

C10-C28)

**Eurofins Carlsbad** 

Prep Type: Total/NA

Client Sample ID: Method Blank

**Client Sample ID: Lab Control Sample** 

Job ID: 890-2475-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

Limits

SDG: 03E1558057

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

LCS LCS

%Recovery Qualifier

Lab Sample ID: LCS 880-28738/2-A

Lab Sample ID: LCSD 880-28738/3-A

Lab Sample ID: 890-2471-A-21-B MS

**Matrix: Solid** 

**Matrix: Solid** 

Surrogate

Analysis Batch: 28713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 28738

89

1-Chlorooctane 70 - 130 o-Terphenyl 94 70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28738

**Analysis Batch: 28713** Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1000 1198 120 70 - 1308 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 83 834.5 \*1 mg/Kg 70 - 13021 20

C10-C28)

**Matrix: Solid** 

**Analysis Batch: 28713** 

LCSD LCSD

Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 81 76 70 - 130 o-Terphenyl

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 28738

Sample Sample MS MS Spike Analyte Added Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 996 787.7 mg/Kg 79 70 - 130 (GRO)-C6-C10 <49.9 U \*1 F1 Diesel Range Organics (Over 996 670.8 F1 mg/Kg 67 70 - 130

C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 89 o-Terphenyl 96 70 - 130

Lab Sample ID: 890-2471-A-21-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 28713

Prep Type: Total/NA

Prep Batch: 28738

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics <49.9 U 996 876.4 88 mg/Kg 70 - 130 11 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*1F1 996 767.3 mg/Kg 77 70 - 130 13 20

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	109		70 - 130

# QC Sample Results

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28633/1-A

Lab Sample ID: LCS 880-28633/2-A

Client Sample ID: Method Blank

**Prep Type: Soluble** 

Analysis Batch: 28885

**Matrix: Solid** 

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 07/04/22 13:12

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Matrix: Solid Analysis Batch: 28885** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit D %Rec Limits Chloride 250 229.1 mg/Kg 92 90 - 110

Lab Sample ID: LCSD 880-28633/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 28885

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 230.3 mg/Kg 90 - 110

Lab Sample ID: 890-2471-A-11-D MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 28885** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added %Rec Result Qualifier Unit Limits Chloride 34.7 250 284.5 100 90 - 110 mg/Kg

Lab Sample ID: 890-2471-A-11-E MSD

**Matrix: Solid** 

Analysis Batch: 28885

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 250 Chloride 34.7 290.4 mg/Kg 102 90 - 110 20

# **QC Association Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2475-1

SDG: 03E1558057

**GC VOA** 

Prep Batch: 28904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	5035	
MB 880-28904/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2475-1 MS	SS03	Total/NA	Solid	5035	
890-2475-1 MSD	SS03	Total/NA	Solid	5035	

#### Analysis Batch: 29172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	8021B	28904
MB 880-28904/5-A	Method Blank	Total/NA	Solid	8021B	28904
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	8021B	28904
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28904
890-2475-1 MS	SS03	Total/NA	Solid	8021B	28904
890-2475-1 MSD	SS03	Total/NA	Solid	8021B	28904

#### Analysis Batch: 29269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Analysis Batch: 28713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	8015B NM	28738
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015B NM	28738
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28738
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28738
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	28738
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28738

#### Prep Batch: 28738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	8015NM Prep	
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### **Analysis Batch: 28877**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 28633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Soluble	Solid	DI Leach	
MB 880-28633/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

Page 11 of 19

# **QC Association Summary**

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

# **HPLC/IC (Continued)**

#### Leach Batch: 28633 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 28885**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2475-1	SS03	Soluble	Solid	300.0	28633
MB 880-28633/1-A	Method Blank	Soluble	Solid	300.0	28633
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	300.0	28633
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28633
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	28633
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	28633

#### **Lab Chronicle**

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

**Client Sample ID: SS03** Lab Sample ID: 890-2475-1 Date Collected: 06/27/22 13:25

Matrix: Solid

Date Received: 06/28/22 09:49

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	28904	07/01/22 15:28	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29172	07/07/22 12:21	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			29269	07/08/22 10:17	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			28877	07/01/22 13:31	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28738	06/30/22 10:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28713	07/01/22 02:07	SM	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	28633	06/29/22 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			28885	07/04/22 17:31	CH	XEN MID

#### **Laboratory References:**

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2475-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Laboratory: Eurofins Midland**

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

Authority	Pr	rogram	Identification Number	<b>Expiration Date</b>
Texas	NI	ELAP	T104704400-22-23	06-30-23
The following analytes the agency does not of	. ,	ut 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**

Job ID: 890-2475-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
3015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
3015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

#### **Protocol References:**

ASTM = ASTM International

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

# **Sample Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2475-1

SDG: 03E1558057

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2475-1	SS03	Solid	06/27/22 13:25	06/28/22 09:49	0.5'

3

4

**5** 

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9

10

12

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13 14

eurofins

# Chain of Custody

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

Work Order No:

www.xenco.com	co.com	Page		of 1
Work	<b>Work Order Comments</b>	mment	5	
Program: UST/PST 🗌 PRP 🗌 Brownfields 🗌 RRC 📗 Superfund 📗	Brownfi	elds 🗌 I	RRC   S	uperfund []
State of Project:				
Reporting: Level II   Level III   PST/UST   TRRP   Level IV	I ☐ PST/L	IST 🔲	TRRP	Level IV
]	1			

Reysed Date: 08/25/2020 Rev. 2020.2	200			The second secon	
		6			5
		4		/	3
		49	10/28/22 449	much Stut-	· O was I much
Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Religquished by: (Signature)
	will be enforced unless previously negotiated.	incurred by the client if such losses are due to circ Xenco, but not analyzed. These terms will be enfo	bility for any losses or expenses in the sample submitted to Eurofins.	mples and shall not assume any responsi d to each project and a charge of \$5 for ea	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 country of Eurofins Xenco. Afminimum charge of \$5.00 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.
	it assigns standard terms and conditions	nco, its affiliates and subcontractors. It assigns s	m client company to Eurofins Xe	ples constitutes a valid purchase order fro	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors.
470 / 7471	<sub>\(\text{Q}\)</sub> TI U Hg: 1631 / 245.1 / 7470 / 7471	TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	RCRA Sb As Ba Be	TCLP / SPLP 6010: 8	Circle Method(s) and Metal(s) to be analyzed
20 0 V Zn	8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mm Mo Ni K Se Ag SiO2 Na Sr 11 Sn U V Zn	Cd Ca Cr Co Cu Fe Pb Mg Mn	11 Al Sb As Ba Be B	8RCRA 13PPM Texas	Total 200.7 / 6010 200.8 / 6020:

NaOH+Ascorbic Acid: SAPC

Sample Comments

Cost Center: 1667681001

Incident Numbers: NAPP2209446613

Zn Acetate+NaOH: Zn

SAMPLE RECEIPT

Temp Blank:

Yes No

Wet ice:

Š

**Parameters** 

00 MU Nes)

Samples Received Intact:

Yes

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Temperature Reading: Correction Factor: Thermometer ID:

CHLORIDES (EPA: 300.0)

890-2475 Chain of Custody

Corrected Temperature:

Sample Custody Seals: Cooler Custody Seals:

Sample Identification SS03

Matrix S

Sampled

Depth

Grab/

TPH (8015) BTEX (8021

Comp

Cont # of

Time

6/27/2022 Sampled

0.5

Grab/

Sampler's Name:

Project Location:

EDDY COUNTY, NM

Due Date:

☑ Routine

Rush

Pres.

ANALYSIS REQUEST

Cool: Cool H2SO4 H2

MeOH: Me HNO<sub>3</sub>: HN NaOH: Na

None: NO

DI Water: H<sub>2</sub>O

Preservative Codes

H3PO4: HP

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>: NaSO<sub>3</sub> NaHSO<sub>4</sub>: NABIS Turn Around

Email: |bbelill@ensolum.com

City, State ZIP:

Carlsbad, NM 88220 3104 E. Green Street XTO Energy, Inc. Garrett Green

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

Kase Parker

Project Number:

roject Name:

Pierce Canyon 3 SWD

03E1558057

City, State ZIP

Carlsbad, NM 88220 3122 National parks Hwy Project Manager:

Ben Belill

Bill to: (if different)

Company Name:

Company Name:

Ensolum, LLC

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2475-1 SDG Number: 03E1558057

Login Number: 2475 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

# **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-2475-1 SDG Number: 03E1558057

Login Number: 2475 **List Source: Eurofins Midland** List Number: 2

List Creation: 06/29/22 10:55 AM

Creator: Rodriguez, Leticia

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

<6mm (1/4").

# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2476-1

Laboratory Sample Delivery Group: 03E1558057

Client Project/Site: Pierce Canyon 3 SWD

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

RAMER

7/8/2022 11:14:47 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

Authorized for release by:

**Have a Question?** 

EOL

····· Links ······

**Review your project** results through

Visit us at:

www.eurofinsus.com/Env Released to Imaging: 8/23/2022 9:42:55 AM

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

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

Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Laboratory Job ID: 890-2476-1
SDG: 03E1558057

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#### **Definitions/Glossary**

Client: Ensolum Job ID: 890-2476-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Qualifiers**

#### **GC VOA**

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

Ouglifier Description

#### **GC Semi VOA** Ouglifier

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

#### **HPLC/IC**

U Indicates the analyte was analyzed for but not detected.

MCL

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
Percent Recovery
Contains Free Liquid
Colony Forming Unit
Contains No Free Liquid
Duplicate Error Ratio (normalized absolute difference)
Dilution Factor
Detection Limit (DoD/DOE)
Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
Decision Level Concentration (Radiochemistry)
Estimated Detection Limit (Dioxin)
Limit of Detection (DoD/DOE)
Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) MDC MDL Method Detection Limit

Minimum Detectable Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present **PQL Practical Quantitation Limit** 

**PRES** Presumptive

**Quality Control** QC

**RER** Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2476-1

SDG: 03E1558057

Job ID: 890-2476-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2476-1

#### Receipt

The sample was received on 6/28/2022 9:49 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-28738 and analytical batch 880-28713 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD\_NM: The matrix spike (MS) recoveries for preparation batch 880-28738 and analytical batch 880-28713 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

Matrix: Solid

Lab Sample ID: 890-2476-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2476-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: SS02

Date Collected: 06/27/22 13:20 Date Received: 06/28/22 09:49

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		07/01/22 15:28	07/07/22 18:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130			07/01/22 15:28	07/07/22 18:31	1
1,4-Difluorobenzene (Surr)	100		70 - 130			07/01/22 15:28	07/07/22 18:31	1
- Method: Total BTEX - Total BTEX	X Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			07/08/22 10:17	1
Method: 8015 NM - Diesel Range	Organics (DB)	0) (CC)						
Analyte	•	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0							
-	<b>\30.0</b>	U	50.0	mg/Kg			07/01/22 13:31	1
- -			50.0	mg/Kg			07/01/22 13:31	1
Method: 8015B NM - Diesel Ranç Analyte	ge Organics (D		50.0 <b>RL</b>	mg/Kg <b>Unit</b>	D	Prepared	07/01/22 13:31  Analyzed	1 Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics	ge Organics (D	RO) (GC) Qualifier			<u>D</u>	Prepared 06/30/22 10:13		
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over	ge Organics (D	RO) (GC) Qualifier	RL	Unit	<u> </u>		Analyzed	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10	ge Organics (Di Result <50.0	RO) (GC) Qualifier U *1	RL 50.0	<mark>Unit</mark> mg/Kg	<u> </u>	06/30/22 10:13	<b>Analyzed</b> 07/01/22 02:28	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)	ge Organics (DI Result <50.0	RO) (GC) Qualifier U 1 *1	RL 50.0	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	06/30/22 10:13 06/30/22 10:13	Analyzed 07/01/22 02:28 07/01/22 02:28	Dil Fac 1 1
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)	ge Organics (D) Result <50.0 <50.0	RO) (GC) Qualifier U *1	RL 50.0 50.0 50.0	<b>Unit</b> mg/Kg mg/Kg	<u> </u>	06/30/22 10:13 06/30/22 10:13 06/30/22 10:13	Analyzed 07/01/22 02:28 07/01/22 02:28 07/01/22 02:28	Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate	ge Organics (D Result <50.0 <50.0 <50.0	RO) (GC) Qualifier U *1		<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	06/30/22 10:13 06/30/22 10:13 06/30/22 10:13 <b>Prepared</b>	Analyzed 07/01/22 02:28 07/01/22 02:28 07/01/22 02:28 Analyzed	Dil Fac  1  1  1  Dil Fac
Method: 8015B NM - Diesel Range Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane	ge Organics (D)  Result  <50.0  <50.0  <50.0   **Recovery  94  101	RO) (GC) Qualifier U *1 U Qualifier	RL 50.0 50.0 50.0 Limits 70 - 130	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	06/30/22 10:13 06/30/22 10:13 06/30/22 10:13 Prepared 06/30/22 10:13	Analyzed 07/01/22 02:28 07/01/22 02:28 07/01/22 02:28 Analyzed 07/01/22 02:28	Dil Fac  1  1  Dil Fac
Method: 8015B NM - Diesel Rang Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl	ge Organics (D)  Result  <50.0  <50.0  <50.0   **Recovery  94  101  omatography -	RO) (GC) Qualifier U *1 U Qualifier	RL 50.0 50.0 50.0 Limits 70 - 130	<b>Unit</b> mg/Kg mg/Kg	<u>D</u>	06/30/22 10:13 06/30/22 10:13 06/30/22 10:13 Prepared 06/30/22 10:13	Analyzed 07/01/22 02:28 07/01/22 02:28 07/01/22 02:28 Analyzed 07/01/22 02:28	Dil Fac  1  1  1  Dil Fac  1

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2476-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recove	ery (Acceptance L
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
890-2475-A-1-G MS	Matrix Spike	110	102		
890-2475-A-1-H MSD	Matrix Spike Duplicate	109	99		
890-2476-1	SS02	113	100		
LCS 880-28904/1-A	Lab Control Sample	107	101		
LCSD 880-28904/2-A	Lab Control Sample Dup	107	100		
MB 880-28904/5-A	Method Blank	96	87		
Surrogate Legend					
BFB = 4-Bromofluorobe	nzene (Surr)				
DFBZ = 1.4-Difluoroben	zene (Surr)				

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

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance L
		1001	OTPH1	
ab Sample ID	Client Sample ID	(70-130)	(70-130)	
90-2471-A-21-B MS	Matrix Spike	89	96	
390-2471-A-21-C MSD	Matrix Spike Duplicate	102	109	
390-2476-1	SS02	94	101	
.CS 880-28738/2-A	Lab Control Sample	89	94	
CSD 880-28738/3-A	Lab Control Sample Dup	81	76	
ИВ 880-28738/1-A	Method Blank	104	122	

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

Client: Ensolum Job ID: 890-2476-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-28904/5-A

Lab Sample ID: LCS 880-28904/1-A

**Matrix: Solid Analysis Batch: 29172**  Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28904

	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Xylenes, Total	< 0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1

MB MB

MD MD

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	07	7/01/22 15:28	07/07/22 12:00	1
1,4-Difluorobenzene (Surr)	87		70 - 130	07	7/01/22 15:28	07/07/22 12:00	1

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 28904

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1014 mg/Kg 101 70 - 130 Toluene 0.100 0.09844 mg/Kg 98 70 - 130 0.100 Ethylbenzene 0.1029 mg/Kg 103 70 - 130 0.200 106 70 - 130 m-Xylene & p-Xylene 0.2124 mg/Kg 0.100 o-Xylene 0.1048 mg/Kg 105 70 - 130

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-28904/2-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

**Matrix: Solid** 

**Analysis Batch: 29172** 

**Analysis Batch: 29172** 

Prep Type: Total/NA Prep Batch: 28904

RPD LCSD LCSD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Limit Benzene 0.100 0.1049 mg/Kg 105 70 - 130 3 35 Toluene 0.100 0.1030 mg/Kg 103 70 - 130 5 35 Ethylbenzene 0.100 0.1077 mg/Kg 108 70 - 130 5 35 0.200 m-Xylene & p-Xylene 0.2212 mg/Kg 111 70 - 130 35 0.100 0.1094 o-Xylene mg/Kg 109 70 - 130 35

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1.4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 890-2475-A-1-G MS

**Matrix: Solid** 

Analysis Batch: 29172

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 28904

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.101	0.09951		mg/Kg		99	70 - 130	
Toluene	<0.00201	U	0.101	0.09548		mg/Kg		95	70 - 130	

Prep Batch: 28904

Prep Type: Total/NA

Prep Batch: 28738

# **QC Sample Results**

Client: Ensolum Job ID: 890-2476-1 SDG: 03E1558057 Project/Site: Pierce Canyon 3 SWD

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

Lab Sample ID: 890-2475-A-1-G MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

**Analysis Batch: 29172** 

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Ethylbenzene	<0.00201	U	0.101	0.09892		mg/Kg		98	70 - 130	
m-Xylene & p-Xylene	<0.00402	U	0.202	0.2043		mg/Kg		101	70 - 130	
o-Xylene	<0.00201	U	0.101	0.1009		mg/Kg		100	70 - 130	

MS MS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	110	70 - 130
1,4-Difluorobenzene (Surr)	102	70 - 130

Lab Sample ID: 890-2475-A-1-H MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 29172									Pre	Batch:	28904
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U	0.100	0.09182		mg/Kg		92	70 - 130	8	35
Toluene	<0.00201	U	0.100	0.08800		mg/Kg		88	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.100	0.08801		mg/Kg		88	70 - 130	12	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1817		mg/Kg		91	70 - 130	12	35
o-Xylene	< 0.00201	U	0.100	0.09018		mg/Kg		90	70 - 130	11	35

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-28738/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 28713

	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		06/30/22 10:13	06/30/22 22:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	06/30/22 10:13	06/30/22 22:11	1
o-Terphenyl	122		70 - 130	06/30/22 10:13	06/30/22 22:11	1

Lab Sample ID: LCS 880-28738/2-A

**Matrix: Solid** 

Analysis Batch: 28713							Prep Batch: 28738		
	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	1000	1108		mg/Kg		111	70 - 130		
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	1029		mg/Kg		103	70 - 130		
C10-C28)									

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Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

Project/Site: Pierce Canyon 3 SWD

Client: Ensolum

Job ID: 890-2476-1

SDG: 03E1558057

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

Lab Sample ID: LCS 880-28738/2-A

LCS LCS

**Matrix: Solid** 

**Analysis Batch: 28713** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 28738

urrogate	%Recovery	Qι

Surrogate	Mecovery	Qualifier	Lillits
1-Chlorooctane	89		70 - 130
o-Terphenyl	94		70 - 130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 28738

Lab Sample ID: LCSD 880-28738/3-A Matrix: Solid

**Analysis Batch: 28713** 

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	1198		mg/Kg		120	70 - 130	8	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	834.5	*1	ma/Ka		83	70 - 130	21	20

C10-C28)

LCSD LCSD

Surrogate	%Recovery Qual	ifier Limits
1-Chlorooctane	81	70 - 130
o-Terphenyl	76	70 - 130

Lab Sample ID: 890-2471-A-21-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

	Sample	Sample	<b>Бріке</b>	IVIO	IVIO				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics	<49.9	U	996	787.7		mg/Kg		79	70 - 130	
(GRO)-C6-C10										
Diesel Range Organics (Over	<49.9	U *1 F1	996	670.8	F1	mg/Kg		67	70 - 130	
C10-C28\										

C10-C28)

	MS M	1S	
Surrogate	%Recovery Q	ualifier)	Limits
1-Chlorooctane	89		70 - 130
o-Terphenyl	96		70 - 130

Lab Sample ID: 890-2471-A-21-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

	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	996	876.4		mg/Kg		88	70 - 130	11	20	
(GRO)-C6-C10												
Diesel Range Organics (Over	<49.9	U *1 F1	996	767.3		mg/Kg		77	70 - 130	13	20	
C10 C28)												

C10-C28)

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	109		70 - 130

# QC Sample Results

Client: Ensolum Job ID: 890-2476-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28633/1-A

**Matrix: Solid** 

Analysis Batch: 28885

Client Sample ID: Method Blank **Prep Type: Soluble** 

MB MB Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 07/04/22 13:12

Lab Sample ID: LCS 880-28633/2-A Client Sample ID: Lab Control Sample **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 28885** 

Spike LCS LCS %Rec Added %Rec Analyte Result Qualifier Unit D Limits Chloride 250 229.1 mg/Kg 92 90 - 110

Lab Sample ID: LCSD 880-28633/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 28885

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 230.3 mg/Kg 90 - 110

Lab Sample ID: 890-2471-A-11-D MS Client Sample ID: Matrix Spike **Prep Type: Soluble** 

**Matrix: Solid** 

**Analysis Batch: 28885** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added %Rec Result Qualifier Unit Limits Chloride 34.7 250 284.5 100 90 - 110 mg/Kg

Lab Sample ID: 890-2471-A-11-E MSD

**Matrix: Solid** 

Analysis Batch: 28885

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 250 Chloride 34.7 290.4 mg/Kg 102 90 - 110 20

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Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

# **QC Association Summary**

Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Job ID: 890-2476-1
SDG: 03E1558057

**GC VOA** 

Prep Batch: 28904

Lab Sample ID 890-2476-1	Client Sample ID SS02	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-28904/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 29172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2476-1	SS02	Total/NA	Solid	8021B	28904
MB 880-28904/5-A	Method Blank	Total/NA	Solid	8021B	28904
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	8021B	28904
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28904
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	28904
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	28904

#### **Analysis Batch: 29275**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2476-1	SS02	Total/NA	Solid	Total BTEX	

#### **GC Semi VOA**

#### Analysis Batch: 28713

<b>Lab Sample ID</b> 890-2476-1	Client Sample ID SS02	Prep Type Total/NA	Matrix Solid	Method 8015B NM	<b>Prep Batch</b> 28738
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015B NM	28738
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28738
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28738
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	28738
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28738

#### Prep Batch: 28738

<b>Lab Sample ID</b> 890-2476-1	Client Sample ID SS02	Prep Type Total/NA	Matrix Solid	Method 8015NM Prep	Prep Batch
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 28878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2476-1	SS02	Total/NA	Solid	8015 NM	

#### HPLC/IC

#### Leach Batch: 28633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2476-1	SS02	Soluble	Solid	DI Leach	
MB 880-28633/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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7/8/2022

# **QC Association Summary**

Client: Ensolum Job ID: 890-2476-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

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

#### Leach Batch: 28633 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### **Analysis Batch: 28885**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2476-1	SS02	Soluble	Solid	300.0	28633
MB 880-28633/1-A	Method Blank	Soluble	Solid	300.0	28633
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	300.0	28633
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28633
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	28633
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	28633

#### **Lab Chronicle**

Client: Ensolum Job ID: 890-2476-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

**Client Sample ID: SS02** Lab Sample ID: 890-2476-1 Date Collected: 06/27/22 13:20

Matrix: Solid

Date Received: 06/28/22 09:49

	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	28904	07/01/22 15:28	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29172	07/07/22 18:31	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			29275	07/08/22 10:17	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			28878	07/01/22 13:31	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	28738	06/30/22 10:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28713	07/01/22 02:28	SM	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	28633	06/29/22 11:09	CH	XEN MID
Soluble	Analysis	300.0		1			28885	07/04/22 17:40	CH	XEN MID

#### **Laboratory References:**

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

# **Accreditation/Certification Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2476-1

SDG: 03E1558057

# **Laboratory: Eurofins Midland**

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

Authority	Pr	ogram	Identification Number	Expiration Date
Texas	Ni	ELAP	T104704400-22-23	06-30-23
The following analytes	are included in this report by	it the laboratory is not cortifi	ed by the governing authority. This list ma	av include englytee fo
the agency does not of	• •	it the laboratory is not certili	ed by the governing additionty. This list the	ay iliciude allaiytes it
0 ,	• •	Matrix	Analyte	ay include analytes it
the agency does not of	fer certification.	•	, , ,	ay include analytes it

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# **Method Summary**

Job ID: 890-2476-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

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

#### **Protocol References:**

ASTM = ASTM International

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

#### Laboratory References:

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

# **Sample Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2476-1 SDG: 03E1558057

 Lab Sample ID
 Client Sample ID
 Matrix
 Collected
 Received
 Depth

 890-2476-1
 SS02
 Solid
 06/27/22 13:20
 06/28/22 09:49
 0.5'

3

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7

0

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114

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

(Signature)

Received by: (Signature)

Maria

0/20100-

Date/Time

Relinquished by: (Signature)

Received by: (Signature)

Date/Time

evised Date 08/25/2020 Rev. 2020.

Total 200.7 / 6010

200.8 / 6020:

iotice: 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

8RCRA 13PPM Texas 11 AISb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se

Ag SiO2 Na Sr TI Sn U V Zn Hg: 1631 / 245.1 / 7470 / 7471

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

service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the cilent if such losses are due to circumstances beyond the control Eurofins Xenco, A minimum cipartie 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 negotiat

# eurofins

Project Manager:

# Ben Belill Environment Testing Bill to: (if different)

# Chain of Custody

EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199 Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300

Work Order No:

		890-2476 Chain of Custody		ANALYSIS REQUEST			
		ustody		DUEST	Deliverables: EDD ADa	Program: UST/PST  PRP  Brownfields  RRC  Superfund  State of Project:	www.xenco.com Page _ Work Order Comments
Incident Numbers: NAPP2209446613	Sample Comments  Cost Center: 1667681001	H <sub>3</sub> PO <sub>4</sub> : HP NaHSO <sub>4</sub> : NABIS Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub> Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC	None: NO DI Water: H <sub>2</sub> O Cool: Cool MeOH: Me HCL: HC HNO <sub>3</sub> : HN H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH Na	Preservative Codes	ADaPT Other:	wnfields ☐ RRC ☐ Superfund ☐	n Page 1 of 1

SAMPLE RECEIPT

Temp Blank:

Wet ice:

8

**Parameters** 

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Project Location: Project Number:

EDDY COUNTY, NM

Due Date:

✓ Routine

Rush

Turn Around

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

Kase Parker

Phone: City, State ZIP

9898540852 Carlsbad, NM 88220

Email: bbelill@ensolum.com

City, State ZIP:

Carlsbad, NM 88220 3104 E. Green Street XTO Energy, Inc. Garrett Green

Address: Company Name:

3122 National parks Hwy

Address:

Company Name:

Ensolum, LLC

Project Name:

Pierce Canyon 3 SWD

03E1558057

Sampler's Name.

Samples Received Intact:

Sample Custody Seals:

Sample Identification SS02

Matrix S

Sampled 6/27/2022

Sampled

1320

0.5

Grab/ Comp Grab/

Date

Ime

Depth

Cont # of

TPH (8015) BTEX (8021 Cooler Custody Seals:

Yes No Yes No (NIA

Temperature Reading: Correction Factor: Thermometer ID: Yes No

CHLORIDES (EPA: 300.0)

Corrected Temperature:

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2476-1 SDG Number: 03E1558057

Login Number: 2476 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2476-1 SDG Number: 03E1558057

> List Source: Eurofins Midland List Creation: 06/29/22 10:55 AM

List Number: 2 Creator: Rodriguez, Leticia

Login Number: 2476

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

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# **Environment Testing America**

# **ANALYTICAL REPORT**

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

Laboratory Job ID: 890-2477-1

Laboratory Sample Delivery Group: 03E1558057

Client Project/Site: Pierce Canyon 3 SWD

For:

Ensolum 705 W. Wadley Suite 210 Midland, Texas 79701

Attn: Ben Belill

MAMER

Authorized for release by: 7/8/2022 11:14:47 AM

Jessica Kramer, Project Manager (432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project results through

**Have a Question?** 



www.eurofinsus.com/Env

Visit us at:

Released to Imaging: 8/23/2022 9:42:55 AM

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

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

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Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Laboratory Job ID: 890-2477-1
SDG: 03E1558057

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# **Definitions/Glossary**

Job ID: 890-2477-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

#### **Qualifiers**

# **GC VOA**

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

## **GC Semi VOA**

Quaimer	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits

**HPLC/IC** 

U

Qualifier **Qualifier Description** 

Indicates the analyte was analyzed for but not detected.

Indicates the analyte was analyzed for but not detected.

# Glossary

**CNF** 

QC

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

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)

Contains No Free Liquid

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

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

MDL Method Detection Limit Minimum Level (Dioxin) ML MPN Most Probable Number Method Quantitation Limit MQL

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present **PQL Practical Quantitation Limit** 

**PRES** Presumptive

**Quality Control RER** Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

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

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

**TNTC** Too Numerous To Count

#### **Case Narrative**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2477-1 SDG: 03E1558057

Job ID: 890-2477-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-2477-1

#### Receipt

The sample was received on 6/28/2022 9:49 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

#### **GC VOA**

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

#### GC Semi VOA

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-28738 and analytical batch 880-28713 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

Method 8015MOD\_NM: The matrix spike (MS) recoveries for preparation batch 880-28738 and analytical batch 880-28713 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

#### HPLC/IC

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

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Matrix: Solid

Lab Sample ID: 890-2477-1

# **Client Sample Results**

Client: Ensolum Job ID: 890-2477-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Client Sample ID: SS01

Date Collected: 06/27/22 13:50 Date Received: 06/28/22 09:49

Sample Depth: 0.5'

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
Toluene	<0.00198	U	0.00198	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		07/01/22 15:28	07/07/22 18:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130			07/01/22 15:28	07/07/22 18:52	1
1,4-Difluorobenzene (Surr)	88		70 - 130			07/01/22 15:28	07/07/22 18:52	1
Method: Total BTEX - Total BTEX	Calculation							
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Method: 8015 NM - Diesel Range	•		DI	Unit	<b>D</b>	Propared	Analyzod	Dil Eac
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			07/01/22 13:31	1
Method: 8015B NM - Diesel Rang	je Organics (D	RO) (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:50	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:50	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		06/30/22 10:13	07/01/22 02:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130			06/30/22 10:13	07/01/22 02:50	1
o-Terphenyl	109		70 - 130			06/30/22 10:13	07/01/22 02:50	1
Method: 300.0 - Anions, Ion Chro	•							
		O 11.C	DI.	1114			A I	B.: E
Analyte	Result	Qualifier	4.95	Unit mg/Kg	D	Prepared	Analyzed 07/04/22 17:49	Dil Fac

# **Surrogate Summary**

Client: Ensolum Job ID: 890-2477-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

				Percent Surrogate R
		BFB1	DFBZ1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-2475-A-1-G MS	Matrix Spike	110	102	
890-2475-A-1-H MSD	Matrix Spike Duplicate	109	99	
890-2477-1	SS01	101	88	
LCS 880-28904/1-A	Lab Control Sample	107	101	
LCSD 880-28904/2-A	Lab Control Sample Dup	107	100	
MB 880-28904/5-A	Method Blank	96	87	
Surrogate Legend				
BFB = 4-Bromofluorober	nzene (Surr)			
DFBZ = 1,4-Difluorobenz	zene (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)
890-2471-A-21-B MS	Matrix Spike	89	96
890-2471-A-21-C MSD	Matrix Spike Duplicate	102	109
890-2477-1	SS01	99	109
LCS 880-28738/2-A	Lab Control Sample	89	94
LCSD 880-28738/3-A	Lab Control Sample Dup	81	76
MB 880-28738/1-A	Method Blank	104	122

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

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Client: Ensolum Job ID: 890-2477-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

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

Lab Sample ID: MB 880-28904/5-A

**Matrix: Solid** 

Analysis Batch: 29172

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 28904

	МВ	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		07/01/22 15:28	07/07/22 12:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		07/01/22 15:28	07/07/22 12:00	1

MB MB

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96	70 - 130	07/01/22 15:28	07/07/22 12:00	1
1,4-Difluorobenzene (Surr)	87	70 - 130	07/01/22 15:28	07/07/22 12:00	1

Lab Sample ID: LCS 880-28904/1-A

**Matrix: Solid** 

**Analysis Batch: 29172** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 28904

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1014 mg/Kg 101 70 - 130 Toluene 0.100 0.09844 mg/Kg 98 70 - 130 0.100 Ethylbenzene 0.1029 mg/Kg 103 70 - 130 0.200 0.2124 106 70 - 130 m-Xylene & p-Xylene mg/Kg 0.100 0.1048 70 - 130 o-Xylene mg/Kg 105

LCS LCS

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1,4-Difluorobenzene (Surr)	101	70 - 130

Lab Sample ID: LCSD 880-28904/2-A

**Matrix: Solid** 

Analysis Batch: 29172

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

Prep Type: Total/NA

Prep Batch: 28904

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	0.100	0.1049		mg/Kg		105	70 - 130	3	35
Toluene	0.100	0.1030		mg/Kg		103	70 - 130	5	35
Ethylbenzene	0.100	0.1077		mg/Kg		108	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.2212		mg/Kg		111	70 - 130	4	35
o-Xylene	0.100	0.1094		mg/Kg		109	70 - 130	4	35

LCSD LCSD

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	107	70 - 130
1 4-Difluorobenzene (Surr)	100	70 - 130

Lab Sample ID: 890-2475-A-1-G MS

**Matrix: Solid** 

Analysis Batch: 29172

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

Prep Batch: 28904

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U	0.101	0.09951		mg/Kg	_	99	70 - 130	
Toluene	<0.00201	U	0.101	0.09548		mg/Kg		95	70 - 130	

**Eurofins Carlsbad** 

Page 7 of 19

Client: Ensolum

Job ID: 890-2477-1

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Matrix Spike

70 - 130

Client Sample ID: Matrix Spike Duplicate

100

SDG: 03E1558057

Method: 8021B - Volatile Organic Compounds (GC) (Continued) Lab Sample ID: 890-2475-A-1-G MS

Project/Site: Pierce Canyon 3 SWD

**Matrix: Solid** 

Analysis Batch: 29172									Prep Batch: 28904		
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	<0.00201	U	0.101	0.09892	-	mg/Kg		98	70 - 130		
m-Xvlene & n-Xvlene	< 0.00402	U	0.202	0.2043		ma/Ka		101	70 - 130		

0.1009

mg/Kg

0.101

MS MS Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 70 - 130 110 1,4-Difluorobenzene (Surr) 102 70 - 130

<0.00201 U

Lab Sample ID: 890-2475-A-1-H MSD

**Matrix: Solid** 

o-Xylene

Analysis Batch: 29172									Prep	Batch:	28904
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00201	U	0.100	0.09182		mg/Kg		92	70 - 130	8	35
Toluene	<0.00201	U	0.100	0.08800		mg/Kg		88	70 - 130	8	35
Ethylbenzene	<0.00201	U	0.100	0.08801		mg/Kg		88	70 - 130	12	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1817		mg/Kg		91	70 - 130	12	35
o-Xylene	<0.00201	U	0.100	0.09018		mg/Kg		90	70 - 130	11	35

MSD MSD Surrogate Qualifier Limits %Recovery 70 - 130 4-Bromofluorobenzene (Surr) 109 1,4-Difluorobenzene (Surr) 99 70 - 130

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

Lab Sample ID: MB 880-28738/1-A

M

Lab Sample ID: MB 880-28738/1-A Client Sar	mple ID: Metho	d Blank
Matrix: Solid	Prep Type:	Total/NA
Analysis Batch: 28713	Prep Batc	h: 28738
MB MB		
Analyte Result Qualifier RL Unit D Prepared	Analyzed	Dil Fac

Allalyte	Result	Qualifier	KL	Ullit	U	Frepareu	Analyzeu	DII Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1
(GRO)-C6-C10								
Diesel Range Organics (Over	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1
C10-C28)								
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		06/30/22 10:13	06/30/22 22:11	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130	06/30/22 10:13	06/30/22 22:11	1
o-Terphenyl	122		70 - 130	06/30/22 10:13	06/30/22 22:11	1

Lab Sample ID: LCS 880-28738/2-A **Client Sample ID: Lab Control Sample** 

Analysis Batch: 28713

**Matrix: Solid** 

LCS LCS Snike

	Opike	LOS	LUU				/orvec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Gasoline Range Organics	1000	1108	-	mg/Kg		111	70 - 130
(GRO)-C6-C10							
Diesel Range Organics (Over	1000	1029		mg/Kg		103	70 - 130
C10-C28)							

**Eurofins Carlsbad** 

Prep Type: Total/NA

Prep Batch: 28738

Job ID: 890-2477-1 Client: Ensolum Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

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

LCS LCS

Lab Sample ID: LCS 880-28738/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

Surrogate %Recovery Qualifier Limits 1-Chlorooctane 89 70 - 130 o-Terphenyl 94 70 - 130

Lab Sample ID: LCSD 880-28738/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** 

Analysis Batch: 28713

Prep Type: Total/NA

Prep Batch: 28738

%Rec RPD Limits **RPD** Limit

Spike LCSD LCSD Analyte Added Result Qualifier Unit D %Rec 1000 1198 120 70 - 1308 20 Gasoline Range Organics mg/Kg (GRO)-C6-C10 Diesel Range Organics (Over 1000 83 834.5 \*1 mg/Kg 70 - 13021 20 C10-C28)

Limits

LCSD LCSD Surrogate %Recovery Qualifier

70 - 130 1-Chlorooctane 81 76 70 - 130 o-Terphenyl

Lab Sample ID: 890-2471-A-21-B MS Client Sample ID: Matrix Spike

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

Sample Sample MS MS Spike Analyte Added Result Qualifier Result Qualifier Unit D %Rec Limits Gasoline Range Organics <49.9 U 996 787.7 mg/Kg 79 70 - 130 (GRO)-C6-C10 <49.9 U \*1 F1 Diesel Range Organics (Over 996 670.8 F1 mg/Kg 67 70 - 130 C10-C28)

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 89 o-Terphenyl 96 70 - 130

Lab Sample ID: 890-2471-A-21-C MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

**Analysis Batch: 28713** 

Prep Type: Total/NA

Prep Batch: 28738

MSD MSD RPD Sample Sample Spike %Rec Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits **RPD** Limit Gasoline Range Organics <49.9 U 996 876.4 88 mg/Kg 70 - 130 11 20 (GRO)-C6-C10 Diesel Range Organics (Over <49.9 U\*1F1 996 767.3 mg/Kg 77 70 - 130 13 20 C10-C28)

MSD MSD

Surrogate	%Recovery Qualifier	Limits
1-Chlorooctane	102	70 - 130
o-Terphenyl	109	70 - 130

# QC Sample Results

Client: Ensolum Job ID: 890-2477-1 Project/Site: Pierce Canyon 3 SWD

Client Sample ID: Method Blank

SDG: 03E1558057

**Prep Type: Soluble** 

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-28633/1-A

**Matrix: Solid** 

Lab Sample ID: LCS 880-28633/2-A

Analysis Batch: 28885

MB MB

Dil Fac Analyte Result Qualifier RL Unit D Prepared Analyzed Chloride <5.00 U 5.00 mg/Kg 07/04/22 13:12

Client Sample ID: Lab Control Sample

Client Sample ID: Matrix Spike Duplicate

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Analysis Batch: 28885** 

**Matrix: Solid** 

Spike LCS LCS %Rec Added %Rec Analyte Result Qualifier Unit D Limits Chloride 250 229.1 mg/Kg 92 90 - 110

Lab Sample ID: LCSD 880-28633/3-A Client Sample ID: Lab Control Sample Dup **Matrix: Solid Prep Type: Soluble** 

Analysis Batch: 28885

LCSD LCSD RPD Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits RPD Limit Chloride 250 230.3 mg/Kg 90 - 110

Lab Sample ID: 890-2471-A-11-D MS Client Sample ID: Matrix Spike **Matrix: Solid Prep Type: Soluble** 

**Analysis Batch: 28885** 

MS MS Sample Sample Spike %Rec Analyte Result Qualifier Added %Rec Result Qualifier Unit Limits Chloride 34.7 250 284.5 100 90 - 110 mg/Kg

Lab Sample ID: 890-2471-A-11-E MSD

**Matrix: Solid** 

Analysis Batch: 28885

Sample Sample Spike MSD MSD %Rec RPD Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit 250 Chloride 34.7 290.4 mg/Kg 102 90 - 110 20

# **QC Association Summary**

Client: Ensolum

Project/Site: Pierce Canyon 3 SWD

Job ID: 890-2477-1

SDG: 03E1558057

GC VOA

Prep Batch: 28904

<b>Lab Sample ID</b> 890-2477-1	Client Sample ID SS01	Prep Type Total/NA	Matrix Solid	Method 5035	Prep Batch
MB 880-28904/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 29172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Total/NA	Solid	8021B	28904
MB 880-28904/5-A	Method Blank	Total/NA	Solid	8021B	28904
LCS 880-28904/1-A	Lab Control Sample	Total/NA	Solid	8021B	28904
LCSD 880-28904/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	28904
890-2475-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	28904
890-2475-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	28904

**Analysis Batch: 29276** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Total/NA	Solid	Total BTEX	

**GC Semi VOA** 

Analysis Batch: 28713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Total/NA	Solid	8015B NM	28738
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015B NM	28738
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	28738
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	28738
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	28738
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	28738

Prep Batch: 28738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-28738/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-28738/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-28738/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2471-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2471-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

**Analysis Batch: 28879** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 28633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Soluble	Solid	DI Leach	<u> </u>
MB 880-28633/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

**Eurofins Carlsbad** 

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# **QC Association Summary**

Client: Ensolum
Project/Site: Pierce Canyon 3 SWD
Job ID: 890-2477-1
SDG: 03E1558057

**HPLC/IC** (Continued)

# Leach Batch: 28633 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

## Analysis Batch: 28885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2477-1	SS01	Soluble	Solid	300.0	28633
MB 880-28633/1-A	Method Blank	Soluble	Solid	300.0	28633
LCS 880-28633/2-A	Lab Control Sample	Soluble	Solid	300.0	28633
LCSD 880-28633/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	28633
890-2471-A-11-D MS	Matrix Spike	Soluble	Solid	300.0	28633
890-2471-A-11-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	28633

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# **Lab Chronicle**

Client: Ensolum Job ID: 890-2477-1 Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

**Client Sample ID: SS01** Lab Sample ID: 890-2477-1 Date Collected: 06/27/22 13:50

Matrix: Solid

Date Received: 06/28/22 09:49

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	28904	07/01/22 15:28	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	29172	07/07/22 18:52	AJ	XEN MID
Total/NA	Analysis	Total BTEX		1			29276	07/08/22 10:17	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			28879	07/01/22 13:31	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	28738	06/30/22 10:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1			28713	07/01/22 02:50	SM	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	28633	06/29/22 11:09	СН	XEN MID
Soluble	Analysis	300.0		1			28885	07/04/22 17:49	CH	XEN MID

#### **Laboratory References:**

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

# **Accreditation/Certification Summary**

Client: Ensolum Job ID: 890-2477-1 Project/Site: Pierce Canyon 3 SWD

SDG: 03E1558057

# **Laboratory: Eurofins Midland**

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

Authority	Pr	rogram	Identification Number	<b>Expiration Date</b>
Texas	NI	ELAP	T104704400-22-23	06-30-23
The following analytes the agency does not of	. ,	ut 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	

XEN MID

ASTM

# **Method Summary**

Client: Ensolum Job ID: 890-2477-1
Project/Site: Pierce Canyon 3 SWD SDG: 03E1558057

Method **Method Description** Protocol Laboratory 8021B Volatile Organic Compounds (GC) SW846 XEN MID **Total BTEX Calculation** Total BTEX TAL SOP XEN MID 8015 NM Diesel Range Organics (DRO) (GC) SW846 XEN MID 8015B NM Diesel Range Organics (DRO) (GC) SW846 XEN MID 300.0 Anions, Ion Chromatography MCAWW XEN MID 5035 SW846 XEN MID Closed System Purge and Trap 8015NM Prep Microextraction SW846 XEN MID

#### **Protocol References:**

DI Leach

ASTM = ASTM International

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Deionized Water Leaching Procedure

#### **Laboratory References:**

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

**Eurofins Carlsbad** 

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# **Sample Summary**

Client: Ensolum

Lab Sample ID

890-2477-1

Project/Site: Pierce Canyon 3 SWD

SS01

Client Sample ID

Job ID: 890-2477-1 SDG: 03E1558057

Collected

06/27/22 13:50

Received

06/28/22 09:49

Depth

0.5'

Matrix

Solid

2

2

3

5

6

8 a

10 11

13

14

•• eurofins

Project Manager: Company Name:

Ben Belill Ensolum, LLC

3122 National parks Hwy

Address:

3104 E. Green Street Carlsbad, NM 88220

Bill to: (if different) Company Name:

Garrett Green
XTO Energy, Inc.

# Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300 Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334 EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 986-3199

Work Order No:	
www.xenco.com Page 1_ of 1_	
Work Order Comments	
Program: UST/PST ☐ PRP☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level III ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV☐	

City, State ZIP:	Carlsbad, NM 88220			City, State ZIP:		Carls	Carlsbad, NM 88220	M 8822	ŏ				L	Kepu	ung.	- A 4 G	֓֞֝֟֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	ק ק ק	Ē	7017		Reporting: Level III   Level III   Level IV   Level IV
Phone:	9898540852		Email:	Email: bbelill@ensolum.com	lum.co	13							L.	Deliv	Deliverables: EDD	S: EE	Ŏ	║└	_	ADaPT LJ	Other:	
Project Name:	Pierce Canyon 3 SWD	3 SWD	Turn	Turn Around							ANALYSIS REQ	YSIS	REQ	UEST	İ						Preserva	Preservative Codes
Project Number:	03E1558057	)57	✓ Routine	Rush	Pres, Code												$\vdash$	-	$\vdash$	Ļ	None: NO	DI Water: H <sub>2</sub> O
Project Location:	EDDY COUNTY, NM	TY NM	Due Date:																		Cool: Cool	MeOH: Me
Sampler's Name:	Kase Parker	ker	TAT starts the	TAT starts the day received by	ν.									_	_	-	-	-		-	HCL: HC	HNO <sub>3</sub> : HN
PO#.			the lab, if rece	the lab, if received by 4:30pm	Ь											Ē			-		H <sub>2</sub> S0 <sub>4</sub> . H <sub>2</sub>	NaOH, Na
SAMPLE RECEIPT	Temp Blank:	Tes No	Wet Ice:	Mes No	nete	.0)								Ī		Ē					H <sub>3</sub> PO₄: HP	
Samples Received Intact:	tact: Anes No	Thermometer ID:	r ID:	TOMOS	Varan	300														_	NaHSO4: NABIS	· w
Cooler Custody Seals:	Yes No	Correction Factor:	actor:	-0.2	Pa	PA:				=										_	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NaSO <sub>3</sub>	) <sub>3</sub>
Sample Custody Seals:	s: Yes No (Nuc	Temperature Reading:	Reading:	5.6		S (E				88	890-2477 Chain of	7 Cha		Custody	gy				+	N:	Zn Acetate+NaOH: Zn	OH: Zn
Total Containers:		Corrected Temperature:	mperature:	4.2	Ь	IDE	15)	8021	_				•	-	-	_	-	_			NaOH+Ascorbic Acid: SAPC	ic Acid: SAPC
Sample Identification	tification Matrix	Date Sampled	Time Sampled	Depth Grab/	y # of Cont	CHLOR	TPH (80	BTEX (8													Sample	Sample Comments
SS01	S	6/27/2022	1350	0.5' Grab/	1	×	×	×									$\vdash$	$\vdash$	H	L	Cost Center	Cost Center: 1667681001
					+													++		44	Incident	Incident Numbers:
						П	П							П		П	H	H	$\vdash$		NAPP2;	NAPP2209446613
				-											T	+	+	+	+	$\perp$		
				-	1									T		$\top$	+	+	4			
																	$\vdash$	$\vdash$	$\vdash$			
Total 200.7 / 6010	Total 200.7 / 6010 200.8 / 6020:		BRCRA 13PPM	RA 13PPM Texas 11 AI S	RCRA	AIS As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni RA Sh As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Ba s	Be B	Cd C	Ca Cr Co Cu Fe Cr Co Cu Pb Mn	문 당 당	Mn Fe	를 뭐	Vig M	Mg Mn Mo Ni K Se Ag SiO₂ Na Sr li Se Ag TI U Hg: 1631 / 245.	⊒ <u>Z</u>	χ 9	<sub>∓</sub> Å	SiO <sub>2</sub>	Na Na	TI Sn U 1/7470	V Zn /7471
otice: Signature of this d	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	nt of samples cons cost of samples an	titutes a valid pu d shall not assun	rchase order from	m client c ility for a	ompany ny losse	to Euro	fins Xen	co, its a	filliates by the c	and su	ocontra uch los	ctors. I	t assigns standard terms and conditions due to circumstances beyond the control to the control t	is stane	lard te	ms ar s beyo	d cond	Rions			
Relinguished by: (Signature)	(Signature)	Receive	Received by: (Signature	ure)		Date	Date/Ţime		چ ا	Relinquished by: (Signatu	shed	oy: (S	gnatu	ře)		R <sub>Q</sub>	eive	d by:	(Sigr	Received by: (Signature)	9)	Date/Time
I fre		MOLY	la S	tut	6	Jolasba	200	20	8													
3					T				4													
					F				6												Revised Da	Revised Date: 08/25/2020 Rev. 2020.2

# **Login Sample Receipt Checklist**

Client: Ensolum Job Number: 890-2477-1
SDG Number: 03E1558057

Login Number: 2477 List Source: Eurofins Carlsbad

List Number: 1

Creator: Stutzman, Amanda

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

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# **Login Sample Receipt Checklist**

 Client: Ensolum
 Job Number: 890-2477-1

 SDG Number: 03E1558057

List Source: Eurofins Midland List Creation: 06/29/22 10:55 AM

Creator: Rodriguez, Leticia

Login Number: 2477

List Number: 2

<6mm (1/4").

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

Eurofins Carlsbad
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APPENDIX E

**NMOCD Notifications** 

# Green, Garrett J

From: Green, Garrett J

**Sent:** Friday, March 25, 2022 9:17 AM

To: Mike Bratcher; Victoria Venegas; Rob Hamlet
Cc: DelawareSpills /SM; Fuentes, Frank O; Jarrett, Ryan

**Subject:** XTO 48 Hour Liner Inspection Notification - Pierce Canyon 3 SWD - Released on

3/21/22

Follow Up Flag: Follow up Flag Status: Completed

Good morning,

This is sent as a 48-hour notification, XTO is scheduled to inspect the lined containment at Pierce Canyon 3 SWD released on (3/21/22), on Monday, March 28, 2022, at 9am MST. A 24 hour release notification was not sent since the release was less than 25 barrels in volume. Please call us with any questions or concerns.

GPS Coordinates: (32.15480, -103.86437)

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

# **Aimee Cole**

**Subject:** FW: XTO - Sampling Notification (week of 5/30/22 - 6/3/22)

From: Baker, Adrian <adrian.baker@exxonmobil.com>

Sent: Wednesday, May 25, 2022 2:17 PM

To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD

<Robert.Hamlet@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>

Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Aimee

Cole <acole@ensolum.com>

Subject: XTO - Sampling Notification (week of 5/30/22 - 6/3/22)

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

All,

XTO plans to complete final sampling activities at the following sites the week of May 30, 2022.

# Tuesday, May 31st

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- BEU 5E Han Solo 114H / nAPP2209041753

#### Wednesday, June 1st

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- BEU 5E Han Solo 114H / nAPP2209041753

#### Thursday, June 2<sup>nd</sup>

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- Row 4 Muy Wayno Line / nAPP2209039217
- Pierce Canyon 3 SWD/ nAPP2209446613

# Friday, June 3<sup>rd</sup>

- PLU 223 / nAPP2204945328, nAPP2205343597, NAPP2201745910
- Row 4 Muy Wayno Line / nAPP2209039217

#### Thank you,

# **Adrian Baker**

Environmental Coordinator Permian Business Unit

XTO Energy Inc. 6401 N. Holiday Hill Dr. Midland, Tx 79707 Mobile:(432)-236-3808 adrian.baker@exxonmobil.com

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. **Santa Fe, NM 87505** 

CONDITIONS

Action 126789

#### **CONDITIONS**

Operator:	OGRID:
XTO ENERGY, INC	5380
6401 Holiday Hill Road	Action Number:
Midland, TX 79707	126789
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By		Condition Date
jnobui	Closure Approved.	8/23/2022