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APPROVED

ENSOLUM

May 1, 2023

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Closure Request
Redtail State Com 001H
Incident Number NAPP2233239048
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Redtail State Com 001H (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a flowline release of produced water and crude oil onto the surrounding pasture. Based on the excavation activities and laboratory analytical results from the soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2233239048.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit A, Section 02, Township 23 South, Range 32 East, in Lea County, New Mexico (32.3398°, -103.6388°) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On November 18, 2022, internal corrosion of a surface flowline resulted in the release of approximately 40.59 barrels (bbls) of produced water and 0.41 bbls of crude oil onto the surrounding pasture area. No free-standing fluids were recovered. COG reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on November 28, 2022. The release was assigned Incident Number NAPP2233239048.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess applicability of Table I, *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.

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Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a recent boring drilled for determination of regional goundwater depth. On April 12, 2023, a borehole (BH01) was advanced to a depth of 106 feet bgs via hollow stem auger drill rig. The borehole was located approximately 140 feet northeast of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Appendix A. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned using drill cuttings and hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1 and the referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a stream, located approximately 3.7 miles north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and less than 300 feet from an occupied residence, school, hospital, institution, or church. The site is greater than 300 feet from a wetland. The Site is greater than 1,000 feet from a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

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

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top 4 feet of the pasture area that was impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On December 2, 2022 and January 23, 2023, Ensolum personnel completed Site visits to evaluate the release extent based on information provided on the Form C-141 and visual observations. Seven assessment soil samples (SS01 through SS07) were collected within and around the release extent at a depth of approximately 0.5 feet bgs. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

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 strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad,

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New Mexico, for analysis of the following chemicals of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for soil samples SS04 through SS07, collected around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement, and successfully defined the lateral extent of the release. Laboratory analytical results for soil samples SS01 and SS03, collected within the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Laboratory analytical results for soil sample SS02, collected within the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria; however, TPH concentrations exceeded the reclamation requirement. Based on laboratory analytical results for the soil samples, excavation of impacted soil was warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between January 9, 2023 and January 23, 2023, Ensolum personnel were at the Site to oversee excavation activities based on laboratory analytical results exceeding the reclamation requirement. Impacted soil was excavated from the release area as indicated by field screening activities and laboratory analytical results. Excavation activities were performed via back-hoe and transport vehicles. To direct excavation activities, soil was field screened for VOCs and chloride as described above. The excavation was completed to a depth of 4 feet bgs. Photographic documentation is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS16 were collected from the floor of the excavation at a depth of 4 feet bgs. Composite soil samples SW01 through SW07 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above.

Laboratory analytical results for excavation sidewall samples SW01 through SW07 and excavation floor samples FS01 through FS16 indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. The excavation extent and excavation soil sample locations are presented on Figure 3. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 3,150 square feet in aerial extent. A total of approximately 467 cubic yards of impacted soil was removed during the excavation activities. The soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. The excavation was secured with fencing once the excavation was complete.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the November 18, 2022, produced water and crude oil flowline release. Laboratory analytical results for the excavation soil samples indicated all COC concentrations were compliant with the Site Closure

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Criteria and reclamation requirement. Based on the soil sample analytical results, no further remediation was required.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. COG believes these remedial actions are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2233239048. The Final C-141 is included in Appendix E.

If you have any questions or comments, please contact Ms. Kalei Jennings at (817) 683-2503 or kjennings@ensolum.com.

Sincerely,
Ensolum, LLC

Hadlie Green
Project Geologist

Aimee Cole
Senior Managing Scientist

cc: Jacob Laird, COG Operating, LLC
New Mexico State Land

Appendices:

Figure 1	Site Receptor Map
Figure 2	Assessment Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix D	NMOCD Notifications
Appendix E	Final C-141

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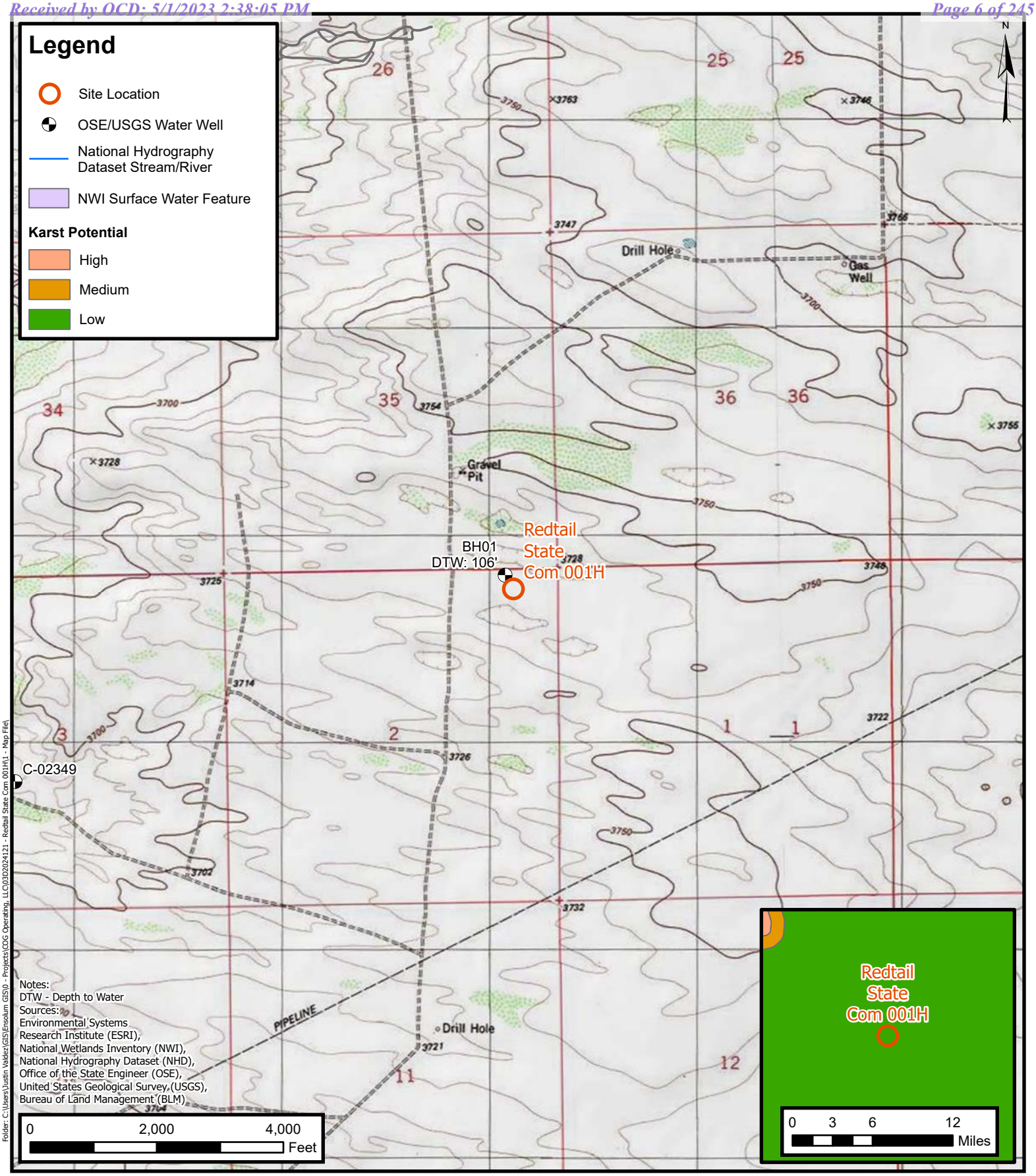
FIGURES



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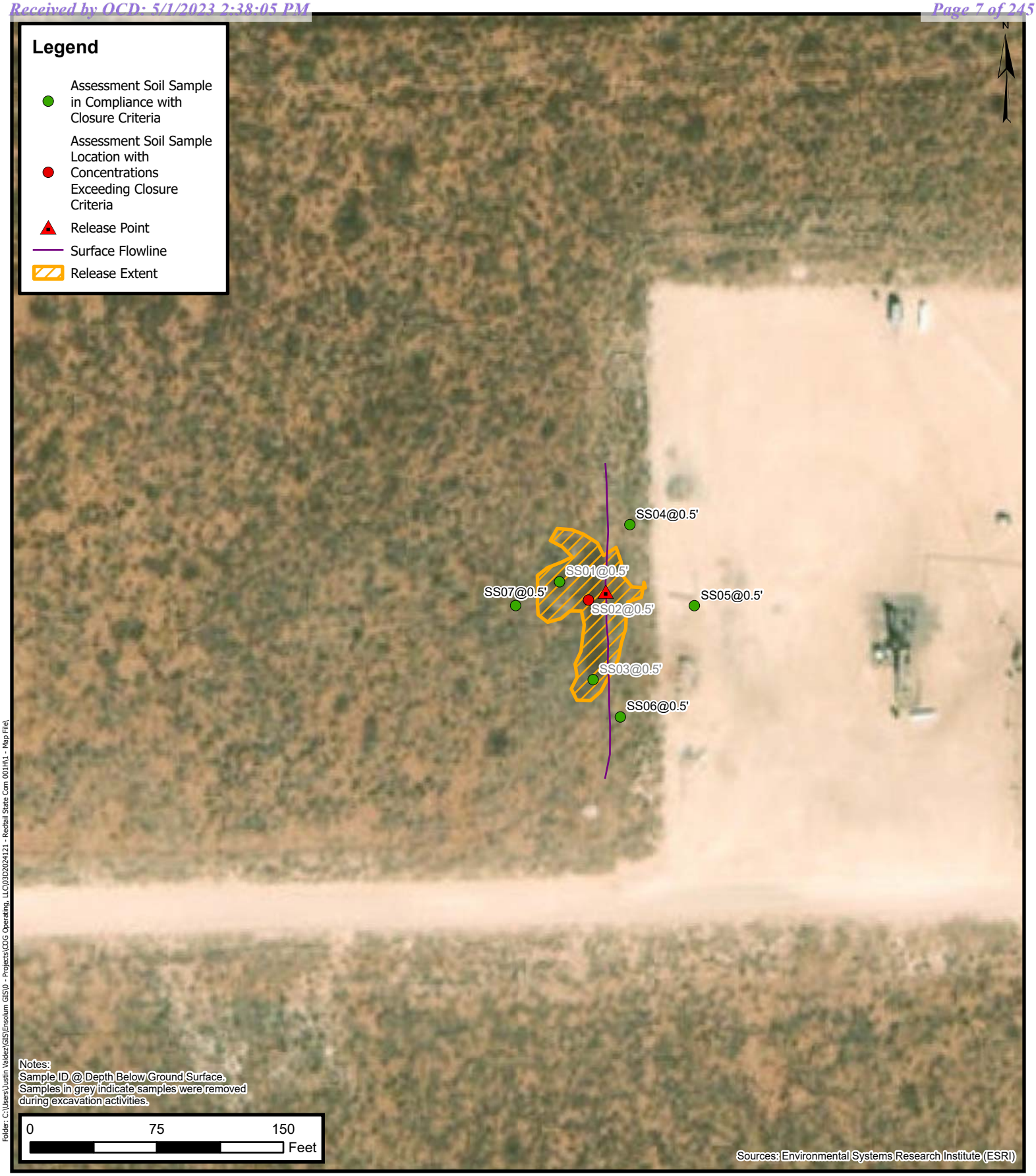
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

COG Operating, LLC
Redtail State Com 001H
Incident Number: NAPP2233239048
Unit A, Sec 02, T23S, R32E
Lea County, New Mexico

FIGURE 1



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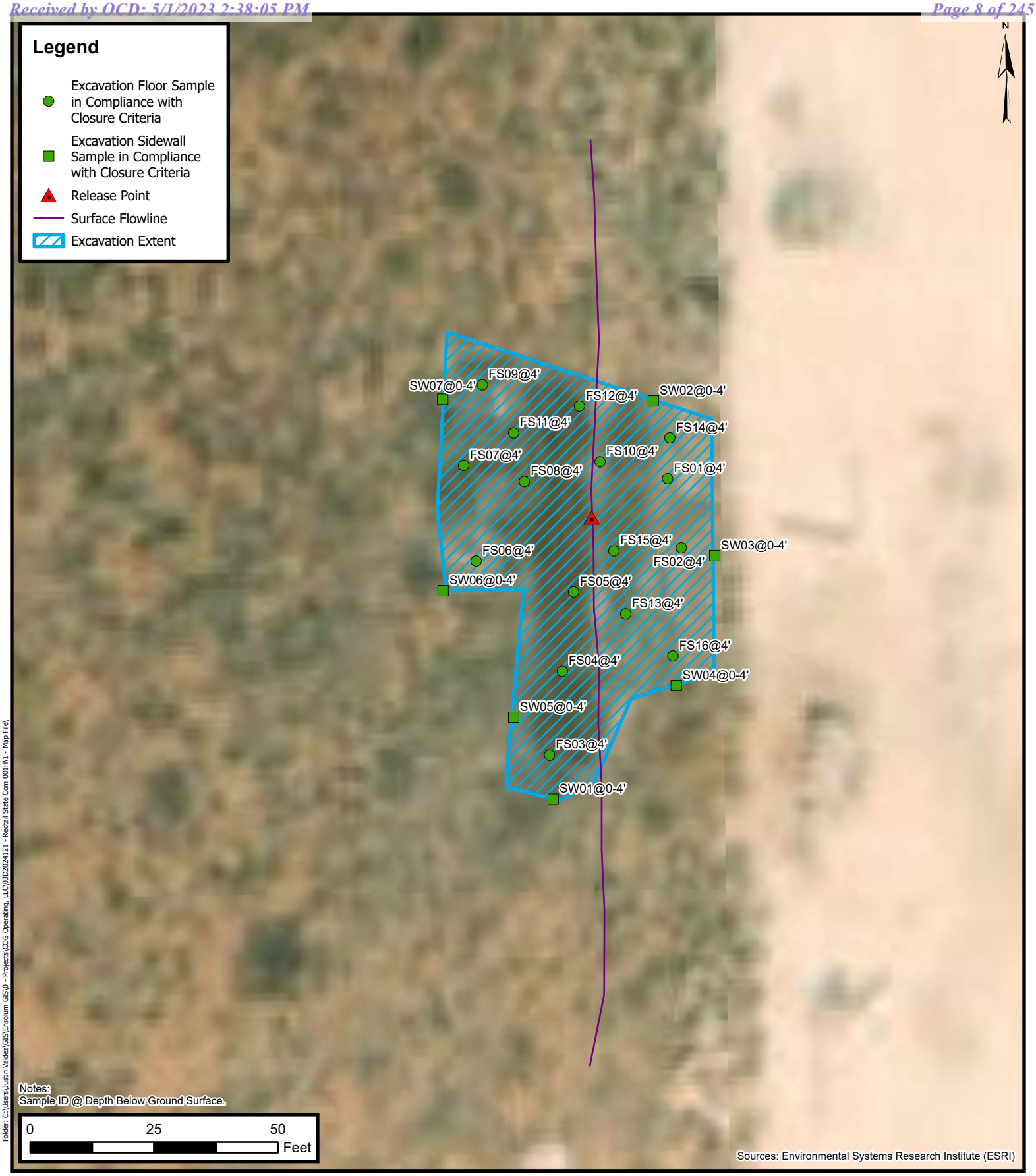
Assessment Soil Sample Locations

COG Operating, LLC
Redtail State Com 001H
Incident Number: NAPP2233239048
Unit A, Sec 02, T23S, R32E
Lea County, New Mexico

FIGURE 2



Folder: C:\Users\Justin Valdez\GIS\Ensolum GIS\0 - Projects\COG Operating, LLC\03D2024121 - Redtail State Com 001H\1 - Map File\

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Excavation Soil Sample Locations

COG Operating, LLC
Redtail State Com 001H
Incident Number NAPP2233239048
Unit A, Sec 02, T23S, R32E
Lea County, New Mexico

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Redtail State Com 001H
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Assessment Soil Samples										
SS01*	12/02/2022	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	31.8
SS02*	12/02/2022	0.5	<0.00200	<0.00401	<49.9	71.4	143	214	214	31.3
SS03*	12/02/2022	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	39.4
SS04*	01/23/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	169
SS05	01/23/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	8.32
SS06*	01/23/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	223
SS07*	01/23/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	5.79
Excavation Floor Soil Samples										
FS01	01/09/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	16,500
FS03	01/18/2023	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	616
FS04	01/18/2023	4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	364
FS05	01/18/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	523
FS06	01/23/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,390
FS07	01/23/2023	4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	19,700
FS08	01/23/2023	4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	3,430
FS09	01/23/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	10,900
FS10	01/23/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	6,150
FS11	01/23/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	5,380
FS12	01/23/2023	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	9,630
FS13	01/23/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	7,660
FS14	01/23/2023	4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	9,700
FS15	01/23/2023	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	14,300
FS16	01/23/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	10,900

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Redtail State Com 001H
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Excavation Sidewall Soil Samples										
SW01*	01/23/2023	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	78.9
SW02*	01/10/2023	0 - 4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	264
SW03*	01/10/2023	0 - 4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	95.9
SW04*	01/10/2023	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	87.9
SW05*	01/23/2023	0 - 4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	78.7
SW06*	01/23/2023	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	344
SW07*	01/23/2023	0 - 4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	114

Notes:
bgs: below ground surface
mg/kg: milligrams per kilogram
NE: not established
NMAC: New Mexico Adminstrative Code
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
Concentrations in ***bold*** *exceed the NMOCD Table I Closure Criteria or reclamation requirment where applicable.*
Grey *text represents samples that have been excavated*
** - indicates locations where the reclamation requirement was applied*

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APPENDIX A

Referenced Well Records

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Sample Name: BH01	Date: 4/12/2023	
Site Name: Redtail State Com 001H		
Incident Number: NAPP2233239048		
Job Number: 03D2024121		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Peter Van Patten	Method: Hollow Stem
Coordinates: 32.340567,-103.639398	Hole Diameter:	Total Depth: 106'

Comments: Soil boring was advanced to a total depth of 106' bgs. No water was observed within the soil boring after at least 72 hours. On 4/17/2023 the boring was plugged and abandoned using hydrated bentonite chips.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
Dry	-	-	N	-	-	0	SP-SM	Sand (surface sample): dark tan, brown, fine grain, poorly graded, few gravel, no stain, no odor
Dry	-	-	N	-	-	10	CHHE	Caliche: off white, white, no stain, no odor
Dry	-	-	N	-	-	20	CHHE	SAA (Same as above)
Dmp	-	-	N	-	-	30	SP-SM	Sand: light tan, tan, fine-medium grain, poorly graded, some caliche gravel, slightly damp, no stain, no odor
Dry	-	-	N	-	-	40	SP-SM	Sand/Silt (Red Beds): red, pale gray/tan, very fine-fine grain, some clay, low plasticity, cohesive, little gravel, no stain, no odor
Dry	-	-	N	-	-	50	SP-SM	SAA, no gravel
Dry	-	-	N	-	-	60	SP-SM	SAA, color change to yellowish tan, dark tan
Dry	-	-	N	-	-	70	SP-SM	SAA, color change to pinkish red, brownish red
Dry	-	-	N	-	-	80	SP-SM	SAA
Dry	-	-	N	-	-	90	SP-SM	Sand: gray, light gray, some reddish gray, fine grain, poorly graded, few gravel, non cohesive no stain, no odor
Dry	-	-	N	-	-	100	SP-SM	Sand: blueish gray, gray, fine grain, poorly graded, no stain, no odor
						110		TD at 106' below ground surface
						120		

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National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

- See the Water Data for the Nation Blog for the latest news and updates.

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321950103400601

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 321950103400601 23S.32E.03.31110

Lea County, New Mexico
Latitude 32°19'50", Longitude 103°40'06" NAD27
Land-surface elevation 3,668 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status

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Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1972-09-13		D	62610		3462.10	NGVD29	1	Z			A
1972-09-13		D	62611		3463.82	NAVD88	1	Z			A
1972-09-13		D	72019	204.18			1	Z			A
1977-03-10		D	62610		3452.43	NGVD29	1	Z			A
1977-03-10		D	62611		3454.15	NAVD88	1	Z			A
1977-03-10		D	72019	213.85			1	Z			A
1981-03-26		D	62610		3468.94	NGVD29	1	Z			A
1981-03-26		D	62611		3470.66	NAVD88	1	Z			A
1981-03-26		D	72019	197.34			1	Z			A
1986-04-16		D	62610		3469.63	NGVD29	1	Z			A
1986-04-16		D	62611		3471.35	NAVD88	1	Z			A
1986-04-16		D	72019	196.65			1	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site

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Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-12-01 14:37:32 EST
0.27 0.24 nadww01

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New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 02275	3	3	2	19	23S	33E	630843	3573557*

Driller License: **Driller Company:**

Driller Name: ABBOTT BROTHERS

Drill Start Date:		**Drill Finish Date:**	12/31/1980	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	40 GPM
Casing Size:	8.63	**Depth Well:**	650 feet	**Depth Water:**	400 feet

Meter Number:	514	**Meter Make:**	MASTER METER
Meter Serial Number:	1527874	**Meter Multiplier:**	10.0000
Number of Dials:	6	**Meter Type:**	Diversion
Unit of Measure:	Gallons	**Return Flow Percent:**	
Usage Multiplier:		**Reading Frequency:**	Quarterly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
02/28/1999	1999	260142	A	ms		0	
04/15/1999	1999	294352	A	ms		1.050	
07/18/1999	1999	320962	A	ms		0.817	
11/28/1999	1999	367317	A	ms		1.423	
04/06/2000	2000	413837	A	mb		1.428	
08/16/2000	2000	474649	A	mb		1.866	
09/15/2000	2000	485983	A	RPT		0.348	
01/19/2001	2000	530107	A	RPT		1.354	
04/27/2001	2001	569967	A	RPT		1.223	
07/16/2001	2001	620178	A	ms		1.541	

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01/12/2002	2002	652573	A	tg		0.994
04/13/2002	2002	662745	A	RPT		0.312
07/12/2002	2002	674878	A	rm		0.372
01/01/2003	2002	714899	A	ms		1.228
07/11/2003	2003	751760	A	ms		1.131
10/01/2003	2003	778772	A	ab		0.829
01/08/2004	2003	802123	A	ab		0.717
04/07/2004	2004	821801	A	RPT		0.604
07/15/2004	2004	836507	A	RPT		0.451
10/12/2004	2004	844068	A	RPT		0.232
01/26/2005	2004	877058	A	RPT		1.012
04/15/2005	2005	889933	A	RPT		0.395
08/03/2005	2005	891339	A	RPT		0.043
10/31/2005	2005	927761	A	RPT		1.118
01/31/2006	2005	941723	A	RPT		0.428
04/20/2006	2006	966263	A	RPT		0.753
07/19/2006	2006	9421	R	tw	Meter Rollover	1.324
11/27/2006	2006	90114	A	RPT		2.476
04/16/2007	2007	124935	A	tw		1.069
07/13/2007	2007	148838	A	tw		0.734
11/03/2007	2007	189325	A	RPT		1.243
04/15/2008	2008	230341	A	RPT		1.259
07/11/2008	2008	273176	A	RPT		1.315
01/08/2009	2008	375616	A	RPT		3.144
05/07/2009	2009	432782	A	RPT		1.754
07/06/2009	2009	465558	A	RPT		1.006
11/02/2009	2009	537994	A	tw		2.223
05/13/2010	2010	592265	A	RPT		1.666
08/23/2010	2010	598613	A	RPT		0.195
11/09/2010	2010	598791	A	RPT		0.005
02/13/2011	2011	599215	A	RPT		0.013
07/12/2011	2011	607344	A	RPT		0.249
01/10/2012	2012	608458	A	RPT		0.034
04/15/2012	2012	608566	A	RPT		0.003
03/20/2013	2012	608566	A	RPT		0

Released to Imaging: 7/21/2023 2:39:28 PM
Received by OCD: 5/1/2023 2:38:05 PM

07/18/2013	2013	608566	A	RPT		0
07/22/2019	2019	896990	A	RPT		8.851
04/01/2020	2020	120850	R	RPT	Meter Rollover	6.870

**YTD Meter Amounts:	Year	Amount
	1999	3.290
	2000	4.996
	2001	2.764
	2002	2.906
	2003	2.677
	2004	2.299
	2005	1.984
	2006	4.553
	2007	3.046
	2008	5.718
	2009	4.983
	2010	1.866
	2011	0.262
	2012	0.037
	2013	0
	2019	8.851
	2020	6.870

***UTM location was derived from PLSS - see Help**

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

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
COG Operating, LLC
Redtail State Com 001H
Incident Number NAPP2233239048

Photograph: 1 Date: 11/18/2022
Description: Initial release
View: West

Photograph: 2 Date: 9/14/2022
Description: Soil staining in release footprint
View: North

Photograph: 3 Date: 9/19/2022
Description: Excavation activities
View: Southeast

Photograph: 4 Date: 9/29/2022
Description: Excavation activities
View: Southeast

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/16/2023 6:25:33 PM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3818-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

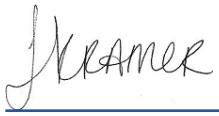
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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1/16/2023 6:25:33 PM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3818-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Job ID: 890-3818-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3818-1

Receipt
The sample was received on 1/10/2023 4:03 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS01 (890-3818-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-43832 and analytical batch 880-43866 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCSD 880-43908/3-A), (MB 880-43908/1-A) and (890-3793-A-1-C). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-43824 and analytical batch 880-43928 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43824 and analytical batch 880-43928 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Client Sample ID: FS01

Date Collected: 01/09/23 13:20
Date Received: 01/10/23 16:03
Sample Depth: 4

Lab Sample ID: 890-3818-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/12/23 14:48	01/14/23 07:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/12/23 14:48	01/14/23 07:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*01/12/23 14:48*	*01/14/23 07:22*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/12/23 14:48*	*01/14/23 07:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/16/23 17:00	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/16/23 16:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/13/23 13:08	01/15/23 12:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/13/23 13:08	01/15/23 12:34	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/13/23 13:08	01/15/23 12:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*122*		*70 - 130*	*01/13/23 13:08*	*01/15/23 12:34*	*1*
o-Terphenyl	*129*		*70 - 130*	*01/13/23 13:08*	*01/15/23 12:34*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16500**		101		mg/Kg			01/14/23 00:41	20

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3817-A-4-D MS	Matrix Spike	121	100
890-3817-A-4-E MSD	Matrix Spike Duplicate	129	98
890-3818-1	FS01	108	105
LCS 880-43832/1-A	Lab Control Sample	108	102
LCSD 880-43832/2-A	Lab Control Sample Dup	106	104
MB 880-43654/5-A	Method Blank	106	103
MB 880-43832/5-B	Method Blank	109	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3793-A-1-D MS	Matrix Spike	92	100
890-3793-A-1-E MSD	Matrix Spike Duplicate	96	107
890-3818-1	FS01	122	129
LCS 880-43908/2-A	Lab Control Sample	111	127
LCSD 880-43908/3-A	Lab Control Sample Dup	110	132 S1+
MB 880-43908/1-A	Method Blank	167 S1+	203 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43654/5-A
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43654

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/10/23 13:07	01/13/23 12:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/10/23 13:07	01/13/23 12:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/10/23 13:07	01/13/23 12:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/10/23 13:07	01/13/23 12:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/10/23 13:07	01/13/23 12:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/10/23 13:07	01/13/23 12:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*01/10/23 13:07*	*01/13/23 12:31*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/10/23 13:07*	*01/13/23 12:31*	*1*

Lab Sample ID: MB 880-43832/5-B
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43832

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 00:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 00:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 00:17	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/12/23 14:48	01/14/23 00:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 00:17	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/12/23 14:48	01/14/23 00:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*01/12/23 14:48*	*01/14/23 00:17*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*01/12/23 14:48*	*01/14/23 00:17*	*1*

Lab Sample ID: LCS 880-43832/1-A
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43832

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1081		mg/Kg		108	70 - 130		
Toluene			0.100	0.1031		mg/Kg		103	70 - 130		
Ethylbenzene			0.100	0.09995		mg/Kg		100	70 - 130		
m-Xylene & p-Xylene			0.200	0.2033		mg/Kg		102	70 - 130		
o-Xylene			0.100	0.09880		mg/Kg		99	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 880-43832/2-A
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43832

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08851		mg/Kg		89	70 - 130	20	35

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

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

Lab Sample ID: LCSD 880-43832/2-A
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43832

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08351		mg/Kg		84	70 - 130	21	35
Ethylbenzene			0.100	0.08255		mg/Kg		83	70 - 130	19	35
m-Xylene & p-Xylene			0.200	0.1689		mg/Kg		84	70 - 130	18	35
o-Xylene			0.100	0.08398		mg/Kg		84	70 - 130	16	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-3817-A-4-D MS
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43832

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.101	0.03806	F1	mg/Kg		38	70 - 130
Toluene	<0.00201	U F1	0.101	0.03900	F1	mg/Kg		38	70 - 130
Ethylbenzene	<0.00201	U F1	0.101	0.04328	F1	mg/Kg		43	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1	0.202	0.08599	F1	mg/Kg		42	70 - 130
o-Xylene	<0.00201	U F1	0.101	0.04492	F1	mg/Kg		44	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3817-A-4-E MSD
Matrix: Solid
Analysis Batch: 43866

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43832

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0990	0.02633	F1 F2	mg/Kg		27	70 - 130	36	35
Toluene	<0.00201	U F1	0.0990	0.02875	F1	mg/Kg		28	70 - 130	30	35
Ethylbenzene	<0.00201	U F1	0.0990	0.03064	F1	mg/Kg		31	70 - 130	34	35
m-Xylene & p-Xylene	<0.00402	U F1	0.198	0.06396	F1	mg/Kg		32	70 - 130	29	35
o-Xylene	<0.00201	U F1	0.0990	0.03464	F1	mg/Kg		34	70 - 130	26	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

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

Lab Sample ID: MB 880-43908/1-A
Matrix: Solid
Analysis Batch: 43947

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43908

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/13/23 13:08	01/15/23 08:29	1

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-43908/1-A
Matrix: Solid
Analysis Batch: 43947

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43908

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/13/23 13:08	01/15/23 08:29	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/13/23 13:08	01/15/23 08:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*167*	*S1+*	*70 - 130*	*01/13/23 13:08*	*01/15/23 08:29*	*1*
o-Terphenyl	*203*	*S1+*	*70 - 130*	*01/13/23 13:08*	*01/15/23 08:29*	*1*

Lab Sample ID: LCS 880-43908/2-A
Matrix: Solid
Analysis Batch: 43947

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43908

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1045		mg/Kg		105	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	972.8		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: LCSD 880-43908/3-A
Matrix: Solid
Analysis Batch: 43947

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43908

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1027		mg/Kg		103	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	981.4		mg/Kg		98	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*132*	*S1+*	*70 - 130*

Lab Sample ID: 890-3793-A-1-D MS
Matrix: Solid
Analysis Batch: 43947

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43908

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	872.4		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1034		mg/Kg		102	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

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

Lab Sample ID: 890-3793-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43947 — **Prep Batch: 43908**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	901.5		mg/Kg		88	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1119		mg/Kg		111	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*96*		*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43824/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43928

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/13/23 23:15	1

Lab Sample ID: LCS 880-43824/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	270.5		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-43824/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43928

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.2		mg/Kg		106	90 - 110	2	20

Lab Sample ID: 890-3817-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1360		253	1554	E 4	mg/Kg		75	90 - 110		

Lab Sample ID: 890-3817-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1360		253	1573	E 4	mg/Kg		82	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

GC VOA

Prep Batch: 43654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-43654/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 43832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	5035	
MB 880-43832/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-43832/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43832/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3817-A-4-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3817-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	8021B	43832
MB 880-43654/5-A	Method Blank	Total/NA	Solid	8021B	43654
MB 880-43832/5-B	Method Blank	Total/NA	Solid	8021B	43832
LCS 880-43832/1-A	Lab Control Sample	Total/NA	Solid	8021B	43832
LCSD 880-43832/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43832
890-3817-A-4-D MS	Matrix Spike	Total/NA	Solid	8021B	43832
890-3817-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43832

Analysis Batch: 44103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 43908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-43908/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43908/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43908/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3793-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3793-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	8015B NM	43908
MB 880-43908/1-A	Method Blank	Total/NA	Solid	8015B NM	43908
LCS 880-43908/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43908
LCSD 880-43908/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43908
890-3793-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	43908
890-3793-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43908

Analysis Batch: 44060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

HPLC/IC

Leach Batch: 43824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Soluble	Solid	DI Leach	
MB 880-43824/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43824/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43824/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3817-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3817-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3818-1	FS01	Soluble	Solid	300.0	43824
MB 880-43824/1-A	Method Blank	Soluble	Solid	300.0	43824
LCS 880-43824/2-A	Lab Control Sample	Soluble	Solid	300.0	43824
LCSD 880-43824/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43824
890-3817-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	43824
890-3817-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43824

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Client Sample ID: FS01

Date Collected: 01/09/23 13:20
Date Received: 01/10/23 16:03

Lab Sample ID: 890-3818-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43832	01/12/23 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43866	01/14/23 07:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44103	01/16/23 17:00	AJ	EET MID
Total/NA	Analysis	8015 NM		1			44060	01/16/23 16:51	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43908	01/13/23 13:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43947	01/15/23 12:34	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	43824	01/12/23 14:04	KS	EET MID
Soluble	Analysis	300.0		20			43928	01/14/23 00:41	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3818-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3818-1	FS01	Solid	01/09/23 13:20	01/10/23 16:03	4

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1/16/2023

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	3122 Nat'l Parks Highway	Address:	3122 Nat'l Parks Highway
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-517-8437	Email:	jadams@ensolum.com, kjennings@ensolum.com

Work Order Comments

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

Project Name:	Rectal State COM 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	D3D2041D4	Due Date:	
Project Location:	32.3398, -103.6386	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT					
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No		
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM007		
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2		
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.4		
Total Containers:		Corrected Temperature:	1.2		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES
FS01	S	01-09-23	1320	4'	C	1		✓	✓	✓

ANALYSIS REQUEST

Parameters

890-3818 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

nAPP2233239048

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Cloe Cap	1.10.23 1603			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3818-1
SDG Number: 03D2024104

Login Number: 3818
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3818-1
SDG Number: 03D2024104

Login Number: 3818
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/12/23 10:37 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 4/18/2023 2:24:05 PM Revision 1

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3819-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

my EOL

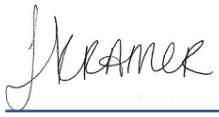
Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Authorization



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4/18/2023 2:24:05 PM
Revision 1

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3819-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Job ID: 890-3819-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3819-1

REVISION

The report being provided is a revision of the original report sent on 1/16/2023. The report (revision 1) is being revised due to Per client email, requesting PH01 and PH02 to be removed.

Receipt
The samples were received on 1/10/2023 4:03 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 1.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW03 (890-3819-1), SW02 (890-3819-2), SW04 (890-3819-3), PH01 (890-3819-4) and PH02 (890-3819-5).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: PH01 (890-3819-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH02 (890-3819-5), (MB 880-43836/1-A) and (890-3814-A-1-E). Evidence of matrix interferences is not obvious.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-43824 and analytical batch 880-43928 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Client Sample ID: SW03
Date Collected: 01/10/23 09:40
Date Received: 01/10/23 16:03
Sample Depth: 0 - 4

Lab Sample ID: 890-3819-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:36	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:36	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:36	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/13/23 08:16	01/14/23 03:36	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:36	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/13/23 08:16	01/14/23 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:36*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/16/23 17:06	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/16/23 16:35	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/12/23 15:08	01/13/23 17:39	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/12/23 15:08	01/13/23 17:39	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/12/23 15:08	01/13/23 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*01/12/23 15:08*	*01/13/23 17:39*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/12/23 15:08*	*01/13/23 17:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95.9**		4.99		mg/Kg			01/14/23 00:48	1

Client Sample ID: SW02
Date Collected: 01/10/23 10:20
Date Received: 01/10/23 16:03
Sample Depth: 0 - 4

Lab Sample ID: 890-3819-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:57	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:57	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:57	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/13/23 08:16	01/14/23 03:57	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/13/23 08:16	01/14/23 03:57	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/13/23 08:16	01/14/23 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:57*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Client Sample ID: SW02

Date Collected: 01/10/23 10:20
Date Received: 01/10/23 16:03
Sample Depth: 0 - 4

Lab Sample ID: 890-3819-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:57*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/16/23 17:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/16/23 16:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/12/23 15:08	01/13/23 18:01	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/12/23 15:08	01/13/23 18:01	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/12/23 15:08	01/13/23 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*01/12/23 15:08*	*01/13/23 18:01*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/12/23 15:08*	*01/13/23 18:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**264**		5.03	mg/Kg			01/14/23 00:54	1

Client Sample ID: SW04

Date Collected: 01/10/23 10:25
Date Received: 01/10/23 16:03
Sample Depth: 0 - 4

Lab Sample ID: 890-3819-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/13/23 08:16	01/14/23 04:18	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/13/23 08:16	01/14/23 04:18	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/13/23 08:16	01/14/23 04:18	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/13/23 08:16	01/14/23 04:18	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/13/23 08:16	01/14/23 04:18	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/13/23 08:16	01/14/23 04:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*01/13/23 08:16*	*01/14/23 04:18*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/13/23 08:16*	*01/14/23 04:18*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/16/23 17:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/16/23 16:35	1

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Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Client Sample ID: SW04

Date Collected: 01/10/23 10:25
Date Received: 01/10/23 16:03
Sample Depth: 0 - 4

Lab Sample ID: 890-3819-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 18:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 18:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*01/12/23 15:08*	*01/13/23 18:23*	*1*
o-Terphenyl	*110*		*70 - 130*	*01/12/23 15:08*	*01/13/23 18:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**87.9**	**F1**	5.04		mg/Kg			01/14/23 01:00	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3819-1	SW03	109	104
890-3819-2	SW02	113	107
890-3819-3	SW04	119	105

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3819-1	SW03	104	105
890-3819-2	SW02	105	105
890-3819-3	SW04	111	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-43747/5-A
Matrix: Solid
Analysis Batch: 43877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43747

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/11/23 13:33	01/13/23 16:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/11/23 13:33	01/13/23 16:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/11/23 13:33	01/13/23 16:30	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/11/23 13:33	01/13/23 16:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/11/23 13:33	01/13/23 16:30	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/11/23 13:33	01/13/23 16:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/11/23 13:33*	*01/13/23 16:30*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*01/11/23 13:33*	*01/13/23 16:30*	*1*

Lab Sample ID: MB 880-43868/5-A
Matrix: Solid
Analysis Batch: 43877

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43868

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/13/23 08:16	01/14/23 03:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/13/23 08:16	01/14/23 03:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/13/23 08:16	01/14/23 03:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/13/23 08:16	01/14/23 03:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/13/23 08:16	01/14/23 03:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/13/23 08:16	01/14/23 03:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:14*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*01/13/23 08:16*	*01/14/23 03:14*	*1*

Lab Sample ID: LCS 880-43868/1-A
Matrix: Solid
Analysis Batch: 43877

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43868

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1038		mg/Kg		104	70 - 130		
Toluene			0.100	0.09662		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.1080		mg/Kg		108	70 - 130		
m-Xylene & p-Xylene			0.200	0.1989		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1040		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-43868/2-A
Matrix: Solid
Analysis Batch: 43877

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43868

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1034		mg/Kg		103	70 - 130	0	35

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

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

Lab Sample ID: LCSD 880-43868/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43877 — **Prep Batch: 43868**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09614		mg/Kg		96	70 - 130	0	35
Ethylbenzene			0.100	0.1036		mg/Kg		104	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1896		mg/Kg		95	70 - 130	5	35
o-Xylene			0.100	0.09875		mg/Kg		99	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*

Lab Sample ID: 890-3819-1 MS — **Client Sample ID: SW03**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43877 — **Prep Batch: 43868**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.1043		mg/Kg		105	70 - 130
Toluene	<0.00201	U	0.0998	0.09540		mg/Kg		96	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.1017		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1879		mg/Kg		94	70 - 130
o-Xylene	<0.00201	U	0.0998	0.09643		mg/Kg		97	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-3819-1 MSD — **Client Sample ID: SW03**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43877 — **Prep Batch: 43868**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.101	0.08686		mg/Kg		86	70 - 130	18	35
Toluene	<0.00201	U	0.101	0.08178		mg/Kg		81	70 - 130	15	35
Ethylbenzene	<0.00201	U	0.101	0.09122		mg/Kg		90	70 - 130	11	35
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1709		mg/Kg		85	70 - 130	9	35
o-Xylene	<0.00201	U	0.101	0.08906		mg/Kg		88	70 - 130	8	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

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

Lab Sample ID: MB 880-43836/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43854 — **Prep Batch: 43836**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 08:27	1

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-43836/1-A
Matrix: Solid
Analysis Batch: 43854

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43836

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 08:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/12/23 15:08	01/13/23 08:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*176*	*S1+*	*70 - 130*	*01/12/23 15:08*	*01/13/23 08:27*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*01/12/23 15:08*	*01/13/23 08:27*	*1*

Lab Sample ID: LCS 880-43836/2-A
Matrix: Solid
Analysis Batch: 43854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43836

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	967.7		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	919.0		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*110*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: LCSD 880-43836/3-A
Matrix: Solid
Analysis Batch: 43854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43836

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1093		mg/Kg		109	70 - 130	12	20
Diesel Range Organics (Over C10-C28)			1000	1022		mg/Kg		102	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*126*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: 890-3814-A-1-F MS
Matrix: Solid
Analysis Batch: 43854

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1041		mg/Kg		102	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1012		mg/Kg		101	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

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

Lab Sample ID: 890-3814-A-1-G MSD
Matrix: Solid
Analysis Batch: 43854

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1007		mg/Kg		99	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	940.5		mg/Kg		94	70 - 130	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*103*		*70 - 130*
o-Terphenyl	*96*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43824/1-A
Matrix: Solid
Analysis Batch: 43928

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/13/23 23:15	1

Lab Sample ID: LCS 880-43824/2-A
Matrix: Solid
Analysis Batch: 43928

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	270.5		mg/Kg		108	90 - 110		

Lab Sample ID: LCSD 880-43824/3-A
Matrix: Solid
Analysis Batch: 43928

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	265.2		mg/Kg		106	90 - 110	2	20

Lab Sample ID: 890-3819-3 MS
Matrix: Solid
Analysis Batch: 43928

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	87.9	F1	252	372.9	F1	mg/Kg		113	90 - 110		

Lab Sample ID: 890-3819-3 MSD
Matrix: Solid
Analysis Batch: 43928

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	87.9	F1	252	367.1	F1	mg/Kg		111	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

GC VOA

Prep Batch: 43868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	5035	
890-3819-2	SW02	Total/NA	Solid	5035	
890-3819-3	SW04	Total/NA	Solid	5035	

Analysis Batch: 43877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	8021B	43868
890-3819-2	SW02	Total/NA	Solid	8021B	43868
890-3819-3	SW04	Total/NA	Solid	8021B	43868

Analysis Batch: 44113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	Total BTEX	
890-3819-2	SW02	Total/NA	Solid	Total BTEX	
890-3819-3	SW04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 43836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	8015NM Prep	
890-3819-2	SW02	Total/NA	Solid	8015NM Prep	
890-3819-3	SW04	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	8015B NM	43836
890-3819-2	SW02	Total/NA	Solid	8015B NM	43836
890-3819-3	SW04	Total/NA	Solid	8015B NM	43836

Analysis Batch: 44028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Total/NA	Solid	8015 NM	
890-3819-2	SW02	Total/NA	Solid	8015 NM	
890-3819-3	SW04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 43824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Soluble	Solid	DI Leach	
890-3819-2	SW02	Soluble	Solid	DI Leach	
890-3819-3	SW04	Soluble	Solid	DI Leach	

Analysis Batch: 43928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3819-1	SW03	Soluble	Solid	300.0	43824
890-3819-2	SW02	Soluble	Solid	300.0	43824
890-3819-3	SW04	Soluble	Solid	300.0	43824

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Client Sample ID: SW03
Date Collected: 01/10/23 09:40
Date Received: 01/10/23 16:03

Lab Sample ID: 890-3819-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	43868	01/13/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43877	01/14/23 03:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44113	01/16/23 17:06	AJ	EET MID
Total/NA	Analysis	8015 NM		1			44028	01/16/23 16:35	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43836	01/12/23 15:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43854	01/13/23 17:39	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	43824	01/12/23 14:04	KS	EET MID
Soluble	Analysis	300.0		1			43928	01/14/23 00:48	CH	EET MID

Client Sample ID: SW02
Date Collected: 01/10/23 10:20
Date Received: 01/10/23 16:03

Lab Sample ID: 890-3819-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	43868	01/13/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43877	01/14/23 03:57	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44113	01/16/23 17:06	AJ	EET MID
Total/NA	Analysis	8015 NM		1			44028	01/16/23 16:35	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43836	01/12/23 15:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43854	01/13/23 18:01	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	43824	01/12/23 14:04	KS	EET MID
Soluble	Analysis	300.0		1			43928	01/14/23 00:54	CH	EET MID

Client Sample ID: SW04
Date Collected: 01/10/23 10:25
Date Received: 01/10/23 16:03

Lab Sample ID: 890-3819-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43868	01/13/23 08:16	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43877	01/14/23 04:18	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44113	01/16/23 17:06	AJ	EET MID
Total/NA	Analysis	8015 NM		1			44028	01/16/23 16:35	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43836	01/12/23 15:08	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43854	01/13/23 18:23	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	43824	01/12/23 14:04	KS	EET MID
Soluble	Analysis	300.0		1			43928	01/14/23 01:00	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3819-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3819-1	SW03	Solid	01/10/23 09:40	01/10/23 16:03	0 - 4
890-3819-2	SW02	Solid	01/10/23 10:20	01/10/23 16:03	0 - 4
890-3819-3	SW04	Solid	01/10/23 10:25	01/10/23 16:03	0 - 4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	3122 Nat'l Parks Highway	Address:	3122 Nat'l Parks Highway
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-517-8437	Email:	jadams@ensolum.com, kjennings@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	1.4
Total Containers:		Corrected Temperature:	1.2

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2S0_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

890-3819 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES	Sample Comments
SW03	S	01/10/23	0940	0-4'	C	1					nAPP2233239048
SW02	S	01/10/23	1020	0-4'	C	1					
SW04	S	01/10/23	1025	0-4'	C	1					
PH01	S	01/10/23	1300	4'	G	1					
PH02	S	01/10/23	1340	4'	G	1					

Parameters

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Julianna Falcomata	Alex Cruz	1.10.23 1403	2			
3				4			
5				6			

Revised Date: 08/25/2020 Rev. 2020.2

4/18/2023 (Rev. 1)
Page 19 of 21
Received by OCD: 5/1/2023 2:38:05 PM
Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3819-1
SDG Number: 03D2024104

Login Number: 3819
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3819-1
SDG Number: 03D2024104

Login Number: 3819
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/12/23 10:37 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/3/2023 11:13:19 AM

JOB DESCRIPTION

Redtail State Com 01H
SDG NUMBER 03D2024104

JOB NUMBER

890-3880-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

Eurofins Carlsbad

Job Notes

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

Authorization

Generated
2/3/2023 11:13:19 AM

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

Client: Ensolum
Project/Site: Redtail State Com 01H

Laboratory Job ID: 890-3880-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Job ID: 890-3880-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3880-1

Receipt
The samples were received on 1/18/2023 2:47 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 2.4°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS03 (890-3880-1), FS04 (890-3880-2) and FS05 (890-3880-3).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: FS04 (890-3880-2) and FS05 (890-3880-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-45145 and analytical batch 880-45222 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10 and Diesel Range Organics (Over C10-C28).

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-44580 and analytical batch 880-44680 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Client Sample ID: FS03

Lab Sample ID: 890-3880-1
Matrix: Solid
Date Collected: 01/18/23 11:10
Date Received: 01/18/23 14:47
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/24/23 12:09	01/27/23 12:51	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/24/23 12:09	01/27/23 12:51	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/24/23 12:09	01/27/23 12:51	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/24/23 12:09	01/27/23 12:51	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/24/23 12:09	01/27/23 12:51	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/24/23 12:09	01/27/23 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*01/24/23 12:09*	*01/27/23 12:51*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*01/24/23 12:09*	*01/27/23 12:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/27/23 15:30	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/03/23 11:49	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		01/31/23 14:03	02/02/23 16:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		01/31/23 14:03	02/02/23 16:59	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/31/23 14:03	02/02/23 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*01/31/23 14:03*	*02/02/23 16:59*	*1*
o-Terphenyl	*79*		*70 - 130*	*01/31/23 14:03*	*02/02/23 16:59*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**616**	**F1**	5.02		mg/Kg			01/24/23 20:45	1

Client Sample ID: FS04

Lab Sample ID: 890-3880-2
Matrix: Solid
Date Collected: 01/18/23 11:15
Date Received: 01/18/23 14:47
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 13:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 13:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 13:17	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/24/23 12:09	01/27/23 13:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 13:17	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/24/23 12:09	01/27/23 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*01/24/23 12:09*	*01/27/23 13:17*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Client Sample ID: FS04

Lab Sample ID: 890-3880-2
Matrix: Solid
Date Collected: 01/18/23 11:15
Date Received: 01/18/23 14:47
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*01/24/23 12:09*	*01/27/23 13:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			01/27/23 15:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 11:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9	mg/Kg		01/31/23 14:03	02/02/23 17:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9	mg/Kg		01/31/23 14:03	02/02/23 17:20	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/31/23 14:03	02/02/23 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*01/31/23 14:03*	*02/02/23 17:20*	*1*
o-Terphenyl	*78*		*70 - 130*	*01/31/23 14:03*	*02/02/23 17:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**364**		4.97	mg/Kg			01/24/23 20:59	1

Client Sample ID: FS05

Lab Sample ID: 890-3880-3
Matrix: Solid
Date Collected: 01/18/23 11:20
Date Received: 01/18/23 14:47
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/24/23 12:09	01/27/23 13:44	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/24/23 12:09	01/27/23 13:44	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/24/23 12:09	01/27/23 13:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		01/24/23 12:09	01/27/23 13:44	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/24/23 12:09	01/27/23 13:44	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		01/24/23 12:09	01/27/23 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*01/24/23 12:09*	*01/27/23 13:44*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*01/24/23 12:09*	*01/27/23 13:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/27/23 15:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/03/23 11:49	1

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Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Client Sample ID: FS05

Lab Sample ID: 890-3880-3

Date Collected: 01/18/23 11:20
Matrix: Solid
Date Received: 01/18/23 14:47
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	49.9		mg/Kg		01/31/23 14:03	02/02/23 17:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U *1	49.9		mg/Kg		01/31/23 14:03	02/02/23 17:42	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/31/23 14:03	02/02/23 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*01/31/23 14:03*	*02/02/23 17:42*	*1*
o-Terphenyl	*89*		*70 - 130*	*01/31/23 14:03*	*02/02/23 17:42*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**523**		4.99		mg/Kg			01/24/23 21:04	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3880-1	FS03	128	87
890-3880-1 MS	FS03	129	95
890-3880-1 MSD	FS03	138 S1+	95
890-3880-2	FS04	138 S1+	95
890-3880-3	FS05	135 S1+	92
LCS 880-44625/1-A	Lab Control Sample	131 S1+	99
LCSD 880-44625/2-A	Lab Control Sample Dup	124	102
MB 880-44625/5-A	Method Blank	88	83

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-24010-A-1-B MS	Matrix Spike	91	82
880-24010-A-1-C MSD	Matrix Spike Duplicate	83	71
890-3880-1	FS03	79	79
890-3880-2	FS04	78	78
890-3880-3	FS05	87	89
LCS 880-45145/2-A	Lab Control Sample	80	75
LCSD 880-45145/3-A	Lab Control Sample Dup	92	91
MB 880-45145/1-A	Method Blank	87	91

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-44625/5-A
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 44625

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 12:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 12:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 12:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/24/23 12:09	01/27/23 12:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/24/23 12:09	01/27/23 12:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/24/23 12:09	01/27/23 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*01/24/23 12:09*	*01/27/23 12:24*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*01/24/23 12:09*	*01/27/23 12:24*	*1*

Lab Sample ID: LCS 880-44625/1-A
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 44625

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1090		mg/Kg		109	70 - 130		
Toluene			0.100	0.1121		mg/Kg		112	70 - 130		
Ethylbenzene			0.100	0.1157		mg/Kg		116	70 - 130		
m-Xylene & p-Xylene			0.200	0.2386		mg/Kg		119	70 - 130		
o-Xylene			0.100	0.1195		mg/Kg		119	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 880-44625/2-A
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 44625

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1136		mg/Kg		114	70 - 130	4	35
Toluene			0.100	0.1013		mg/Kg		101	70 - 130	10	35
Ethylbenzene			0.100	0.1050		mg/Kg		105	70 - 130	10	35
m-Xylene & p-Xylene			0.200	0.2128		mg/Kg		106	70 - 130	11	35
o-Xylene			0.100	0.1073		mg/Kg		107	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-3880-1 MS
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 44625

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.101	0.1074		mg/Kg		107	70 - 130		
Toluene	<0.00201	U	0.101	0.09370		mg/Kg		93	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

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

Lab Sample ID: 890-3880-1 MS
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 44625

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.101	0.09485		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.202	0.1976		mg/Kg		98	70 - 130
o-Xylene	<0.00201	U	0.101	0.09993		mg/Kg		99	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3880-1 MSD
Matrix: Solid
Analysis Batch: 44889

Client Sample ID: FS03
Prep Type: Total/NA
Prep Batch: 44625

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.1039		mg/Kg		105	70 - 130	3	35
Toluene	<0.00201	U	0.0990	0.09077		mg/Kg		92	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0990	0.08913		mg/Kg		90	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1880		mg/Kg		95	70 - 130	5	35
o-Xylene	<0.00201	U	0.0990	0.09630		mg/Kg		97	70 - 130	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-45145/1-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45145

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/31/23 14:03	02/02/23 09:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		01/31/23 14:03	02/02/23 09:48	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/31/23 14:03	02/02/23 09:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*01/31/23 14:03*	*02/02/23 09:48*	*1*
o-Terphenyl	*91*		*70 - 130*	*01/31/23 14:03*	*02/02/23 09:48*	*1*

Lab Sample ID: LCS 880-45145/2-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	999	716.6		mg/Kg		72	70 - 130
Diesel Range Organics (Over C10-C28)	999	910.1		mg/Kg		91	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45145/2-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	80		70 - 130
o-Terphenyl	75		70 - 130

Lab Sample ID: LCSD 880-45145/3-A
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45145

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	1055	*1	mg/Kg		106	70 - 130	38	20
Diesel Range Organics (Over C10-C28)			999	1157	*1	mg/Kg		116	70 - 130	24	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	91		70 - 130

Lab Sample ID: 880-24010-A-1-B MS
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	1000	878.8		mg/Kg		83	70 - 130
Diesel Range Organics (Over C10-C28)	63.9	*1	1000	976.1		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	91		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: 880-24010-A-1-C MSD
Matrix: Solid
Analysis Batch: 45222

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *1	998	744.8		mg/Kg		70	70 - 130	17	20
Diesel Range Organics (Over C10-C28)	63.9	*1	998	831.4		mg/Kg		77	70 - 130	16	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	71		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44580/1-A
Matrix: Solid
Analysis Batch: 44680

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/24/23 20:30	1

Lab Sample ID: LCS 880-44580/2-A
Matrix: Solid
Analysis Batch: 44680

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	267.8		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-44580/3-A
Matrix: Solid
Analysis Batch: 44680

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	268.0		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-3880-1 MS
Matrix: Solid
Analysis Batch: 44680

Client Sample ID: FS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	616	F1	251	1067	F1	mg/Kg		180	90 - 110		

Lab Sample ID: 890-3880-1 MSD
Matrix: Solid
Analysis Batch: 44680

Client Sample ID: FS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	616	F1	251	1069	F1	mg/Kg		181	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

GC VOA

Prep Batch: 44625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	5035	
890-3880-2	FS04	Total/NA	Solid	5035	
890-3880-3	FS05	Total/NA	Solid	5035	
MB 880-44625/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-44625/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-44625/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3880-1 MS	FS03	Total/NA	Solid	5035	
890-3880-1 MSD	FS03	Total/NA	Solid	5035	

Analysis Batch: 44889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	8021B	44625
890-3880-2	FS04	Total/NA	Solid	8021B	44625
890-3880-3	FS05	Total/NA	Solid	8021B	44625
MB 880-44625/5-A	Method Blank	Total/NA	Solid	8021B	44625
LCS 880-44625/1-A	Lab Control Sample	Total/NA	Solid	8021B	44625
LCSD 880-44625/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	44625
890-3880-1 MS	FS03	Total/NA	Solid	8021B	44625
890-3880-1 MSD	FS03	Total/NA	Solid	8021B	44625

Analysis Batch: 44935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	Total BTEX	
890-3880-2	FS04	Total/NA	Solid	Total BTEX	
890-3880-3	FS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	8015NM Prep	
890-3880-2	FS04	Total/NA	Solid	8015NM Prep	
890-3880-3	FS05	Total/NA	Solid	8015NM Prep	
MB 880-45145/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45145/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45145/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24010-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24010-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	8015B NM	45145
890-3880-2	FS04	Total/NA	Solid	8015B NM	45145
890-3880-3	FS05	Total/NA	Solid	8015B NM	45145
MB 880-45145/1-A	Method Blank	Total/NA	Solid	8015B NM	45145
LCS 880-45145/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45145
LCSD 880-45145/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45145
880-24010-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	45145
880-24010-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45145

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

GC Semi VOA

Analysis Batch: 45386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Total/NA	Solid	8015 NM	
890-3880-2	FS04	Total/NA	Solid	8015 NM	
890-3880-3	FS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Soluble	Solid	DI Leach	
890-3880-2	FS04	Soluble	Solid	DI Leach	
890-3880-3	FS05	Soluble	Solid	DI Leach	
MB 880-44580/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44580/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44580/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3880-1 MS	FS03	Soluble	Solid	DI Leach	
890-3880-1 MSD	FS03	Soluble	Solid	DI Leach	

Analysis Batch: 44680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3880-1	FS03	Soluble	Solid	300.0	44580
890-3880-2	FS04	Soluble	Solid	300.0	44580
890-3880-3	FS05	Soluble	Solid	300.0	44580
MB 880-44580/1-A	Method Blank	Soluble	Solid	300.0	44580
LCS 880-44580/2-A	Lab Control Sample	Soluble	Solid	300.0	44580
LCSD 880-44580/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44580
890-3880-1 MS	FS03	Soluble	Solid	300.0	44580
890-3880-1 MSD	FS03	Soluble	Solid	300.0	44580

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Client Sample ID: FS03

Lab Sample ID: 890-3880-1
Matrix: Solid
Date Collected: 01/18/23 11:10
Date Received: 01/18/23 14:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	44625	01/24/23 12:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	44889	01/27/23 12:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44935	01/27/23 15:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45386	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45145	01/31/23 14:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/02/23 16:59	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44580	01/23/23 15:15	KS	EET MID
Soluble	Analysis	300.0		1			44680	01/24/23 20:45	CH	EET MID

Client Sample ID: FS04

Lab Sample ID: 890-3880-2
Matrix: Solid
Date Collected: 01/18/23 11:15
Date Received: 01/18/23 14:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	44625	01/24/23 12:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	44889	01/27/23 13:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44935	01/27/23 15:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45386	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45145	01/31/23 14:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/02/23 17:20	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44580	01/23/23 15:15	KS	EET MID
Soluble	Analysis	300.0		1			44680	01/24/23 20:59	CH	EET MID

Client Sample ID: FS05

Lab Sample ID: 890-3880-3
Matrix: Solid
Date Collected: 01/18/23 11:20
Date Received: 01/18/23 14:47

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	44625	01/24/23 12:09	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	44889	01/27/23 13:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44935	01/27/23 15:30	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45386	02/03/23 11:49	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45145	01/31/23 14:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45222	02/02/23 17:42	AJ	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	44580	01/23/23 15:15	KS	EET MID
Soluble	Analysis	300.0		1			44680	01/24/23 21:04	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 01H

Job ID: 890-3880-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3880-1	FS03	Solid	01/18/23 11:10	01/18/23 14:47	4'
890-3880-2	FS04	Solid	01/18/23 11:15	01/18/23 14:47	4'
890-3880-3	FS05	Solid	01/18/23 11:20	01/18/23 14:47	4'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	3122 Nat'l Parks Highway	Address:	3122 Nat'l Parks Highway
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-517-8437	Email:	jadams@ensolum.com, kjennings@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 01H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	IR-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.6
Total Containers:		Corrected Temperature:	2.4

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2S0_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES	Sample Comments
FS03	S	01-18-23	1110	4'	C	1					
FS04	S	01-18-23	1115	4'	C	1					nAPP2233239048
FS05	S	01-18-23	1120	4	C	1					

890-3880 Chain of Custody

Parameters

ANALYSIS REQUEST

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Stef	1-18-23 1447			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3880-1
SDG Number: 03D2024104

Login Number: 3880
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3880-1
SDG Number: 03D2024104

Login Number: 3880
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/20/23 10:42 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/5/2023 9:38:37 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3940-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

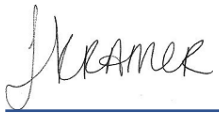
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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2/5/2023 9:38:37 AM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3940-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Job ID: 890-3940-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3940-1

Receipt
The samples were received on 1/24/2023 8:44 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW01 (890-3940-1), SW05 (890-3940-2), SW06 (890-3940-3), SW07 (890-3940-4), FS06 (890-3940-5), FS07 (890-3940-6), FS08 (890-3940-7), FS09 (890-3940-8), FS10 (890-3940-9), FS11 (890-3940-10), FS12 (890-3940-11), FS13 (890-3940-12), FS14 (890-3940-13), FS15 (890-3940-14) and FS16 (890-3940-15).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-45336/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-45337 and analytical batch 880-45443 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45275 and analytical batch 880-45439 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-3930-A-1-F MS) and (890-3930-A-1-G MSD). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW01

Lab Sample ID: 890-3940-1
Matrix: Solid
Date Collected: 01/23/23 11:00
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/03/23 09:22	02/03/23 13:06	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/03/23 09:22	02/03/23 13:06	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/03/23 09:22	02/03/23 13:06	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/03/23 09:22	02/03/23 13:06	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/03/23 09:22	02/03/23 13:06	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/03/23 09:22	02/03/23 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:06*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 01:15	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 01:15	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*02/02/23 14:55*	*02/05/23 01:15*	*1*
o-Terphenyl	*81*		*70 - 130*	*02/02/23 14:55*	*02/05/23 01:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.9**		5.04		mg/Kg			01/30/23 09:54	1

Client Sample ID: SW05

Lab Sample ID: 890-3940-2
Matrix: Solid
Date Collected: 01/23/23 11:05
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 13:33	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 13:33	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 13:33	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/03/23 09:22	02/03/23 13:33	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 13:33	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/03/23 09:22	02/03/23 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:33*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW05

Date Collected: 01/23/23 11:05
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

Lab Sample ID: 890-3940-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:33*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 01:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 01:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*02/02/23 14:55*	*02/05/23 01:55*	*1*
o-Terphenyl	*81*		*70 - 130*	*02/02/23 14:55*	*02/05/23 01:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**78.7**		5.00	mg/Kg			01/30/23 10:09	1

Client Sample ID: SW06

Date Collected: 01/23/23 11:10
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

Lab Sample ID: 890-3940-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		02/03/23 09:22	02/03/23 13:59	1
Toluene	<0.00199	U	0.00199	mg/Kg		02/03/23 09:22	02/03/23 13:59	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		02/03/23 09:22	02/03/23 13:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		02/03/23 09:22	02/03/23 13:59	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		02/03/23 09:22	02/03/23 13:59	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		02/03/23 09:22	02/03/23 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:59*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*02/03/23 09:22*	*02/03/23 13:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/05/23 09:57	1

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Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW06

Lab Sample ID: 890-3940-3
Matrix: Solid
Date Collected: 01/23/23 11:10
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:15	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:15	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:15*	*1*
o-Terphenyl	*81*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**344**		5.00		mg/Kg			01/30/23 10:13	1

Client Sample ID: SW07

Lab Sample ID: 890-3940-4
Matrix: Solid
Date Collected: 01/23/23 11:20
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 14:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 14:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 14:25	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/03/23 14:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 14:25	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/03/23 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*02/03/23 09:22*	*02/03/23 14:25*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/03/23 09:22*	*02/03/23 14:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:36	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:36*	*1*
o-Terphenyl	*78*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:36*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW07

Lab Sample ID: 890-3940-4
Matrix: Solid
Date Collected: 01/23/23 11:20
Date Received: 01/24/23 08:44
Sample Depth: 0-4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	114		5.03		mg/Kg			01/30/23 10:18	1

Client Sample ID: FS06

Lab Sample ID: 890-3940-5
Matrix: Solid
Date Collected: 01/23/23 11:45
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 14:51	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 14:51	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 14:51	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 14:51	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 14:51	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*02/03/23 09:22*	*02/03/23 14:51*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/03/23 09:22*	*02/03/23 14:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:56*	*1*
o-Terphenyl	*90*		*70 - 130*	*02/02/23 14:55*	*02/05/23 02:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5390		50.2		mg/Kg			01/30/23 10:23	10

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS07

Lab Sample ID: 890-3940-6
Matrix: Solid
Date Collected: 01/23/23 11:50
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 15:17	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 15:17	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 15:17	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/03/23 09:22	02/03/23 15:17	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 15:17	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/03/23 09:22	02/03/23 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*02/03/23 09:22*	*02/03/23 15:17*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*02/03/23 09:22*	*02/03/23 15:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 03:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 03:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:17*	*1*
o-Terphenyl	*83*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19700**		249		mg/Kg			01/30/23 10:28	50

Client Sample ID: FS08

Lab Sample ID: 890-3940-7
Matrix: Solid
Date Collected: 01/23/23 11:55
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 15:44	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 15:44	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 15:44	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/03/23 09:22	02/03/23 15:44	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/03/23 09:22	02/03/23 15:44	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/03/23 09:22	02/03/23 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*02/03/23 09:22*	*02/03/23 15:44*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS08

Lab Sample ID: 890-3940-7
Matrix: Solid
Date Collected: 01/23/23 11:55
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*02/03/23 09:22*	*02/03/23 15:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 03:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 03:36	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/02/23 14:55	02/05/23 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:36*	*1*
o-Terphenyl	*82*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3430**		49.6	mg/Kg			01/30/23 10:33	10

Client Sample ID: FS09

Lab Sample ID: 890-3940-8
Matrix: Solid
Date Collected: 01/23/23 12:00
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 16:10	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 16:10	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 16:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		02/03/23 09:22	02/03/23 16:10	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 16:10	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		02/03/23 09:22	02/03/23 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*02/03/23 09:22*	*02/03/23 16:10*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*02/03/23 09:22*	*02/03/23 16:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/05/23 09:57	1

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Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS09

Lab Sample ID: 890-3940-8
Matrix: Solid
Date Collected: 01/23/23 12:00
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 03:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 03:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:56*	*1*
o-Terphenyl	*85*		*70 - 130*	*02/02/23 14:55*	*02/05/23 03:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10900**		101		mg/Kg			01/30/23 10:47	20

Client Sample ID: FS10

Lab Sample ID: 890-3940-9
Matrix: Solid
Date Collected: 01/23/23 12:05
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 16:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 16:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 16:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 16:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 16:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*02/03/23 09:22*	*02/03/23 16:36*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*02/03/23 09:22*	*02/03/23 16:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:17	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:17	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:17*	*1*
o-Terphenyl	*91*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:17*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS10

Lab Sample ID: 890-3940-9
Matrix: Solid
Date Collected: 01/23/23 12:05
Date Received: 01/24/23 08:44
Sample Depth: 4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6150		49.7		mg/Kg			01/30/23 10:52	10

Client Sample ID: FS11

Lab Sample ID: 890-3940-10
Matrix: Solid
Date Collected: 01/23/23 12:10
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 17:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 17:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 17:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 17:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 17:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*02/03/23 09:22*	*02/03/23 17:02*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*02/03/23 09:22*	*02/03/23 17:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:37	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:37	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/05/23 04:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:37*	*1*
o-Terphenyl	*86*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5380		50.3		mg/Kg			01/30/23 11:06	10

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS12

Lab Sample ID: 890-3940-11
Matrix: Solid
Date Collected: 01/23/23 12:15
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 18:47	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 18:47	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 18:47	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 18:47	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 18:47	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*02/03/23 09:22*	*02/03/23 18:47*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/03/23 09:22*	*02/03/23 18:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/05/23 09:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 04:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 04:57	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/02/23 14:55	02/05/23 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:57*	*1*
o-Terphenyl	*83*		*70 - 130*	*02/02/23 14:55*	*02/05/23 04:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9630**		100		mg/Kg			01/30/23 11:11	20

Client Sample ID: FS13

Lab Sample ID: 890-3940-12
Matrix: Solid
Date Collected: 01/23/23 14:15
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 19:13	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 19:13	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 19:13	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/03/23 19:13	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 19:13	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/03/23 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*02/03/23 09:22*	*02/03/23 19:13*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS13

Lab Sample ID: 890-3940-12
Matrix: Solid
Date Collected: 01/23/23 14:15
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*02/03/23 09:22*	*02/03/23 19:13*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		02/03/23 09:23	02/04/23 12:43	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		02/03/23 09:23	02/04/23 12:43	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		02/03/23 09:23	02/04/23 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*02/03/23 09:23*	*02/04/23 12:43*	*1*
o-Terphenyl	*86*		*70 - 130*	*02/03/23 09:23*	*02/04/23 12:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7660**		99.6	mg/Kg			01/30/23 11:16	20

Client Sample ID: FS14

Lab Sample ID: 890-3940-13
Matrix: Solid
Date Collected: 01/23/23 14:25
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 19:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 19:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 19:39	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/03/23 09:22	02/03/23 19:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/03/23 09:22	02/03/23 19:39	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/03/23 09:22	02/03/23 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*02/03/23 09:22*	*02/03/23 19:39*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*02/03/23 09:22*	*02/03/23 19:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			02/05/23 09:31	1

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Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS14

Lab Sample ID: 890-3940-13
Matrix: Solid
Date Collected: 01/23/23 14:25
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:05	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:05	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*85*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:05*	*1*
o-Terphenyl	*81*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:05*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9700**		99.4		mg/Kg			01/30/23 11:21	20

Client Sample ID: FS15

Lab Sample ID: 890-3940-14
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:06	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:06	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:06	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:06	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:06	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:06*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:27	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/03/23 09:23	02/04/23 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:27*	*1*
o-Terphenyl	*94*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:27*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS15

Lab Sample ID: 890-3940-14
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44
Sample Depth: 4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14300		100		mg/Kg			01/30/23 11:26	20

Client Sample ID: FS16

Lab Sample ID: 890-3940-15
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:32*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:32*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 13:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 13:48	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:48*	*1*
o-Terphenyl	*93*		*70 - 130*	*02/03/23 09:23*	*02/04/23 13:48*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10900		100		mg/Kg			01/30/23 11:30	20

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-3940-1	SW01	91	103
890-3940-1 MS	SW01	106	107
890-3940-1 MSD	SW01	90	106
890-3940-2	SW05	81	93
890-3940-3	SW06	79	91
890-3940-4	SW07	96	100
890-3940-5	FS06	99	102
890-3940-6	FS07	102	104
890-3940-7	FS08	98	97
890-3940-8	FS09	100	108
890-3940-9	FS10	79	96
890-3940-10	FS11	76	94
890-3940-11	FS12	90	101
890-3940-12	FS13	94	92
890-3940-13	FS14	100	109
890-3940-14	FS15	93	106
890-3940-15	FS16	104	108
LCS 880-45336/1-A	Lab Control Sample	86	104
LCSD 880-45336/2-A	Lab Control Sample Dup	95	106
MB 880-45336/5-A	Method Blank	64 S1-	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3923-A-3-E MS	Matrix Spike	107	86
890-3923-A-3-F MSD	Matrix Spike Duplicate	123	98
890-3930-A-1-F MS	Matrix Spike	11 S1-	12 S1-
890-3930-A-1-G MSD	Matrix Spike Duplicate	10 S1-	10 S1-
890-3940-1	SW01	77	81
890-3940-2	SW05	79	81
890-3940-3	SW06	77	81
890-3940-4	SW07	74	78
890-3940-5	FS06	85	90
890-3940-6	FS07	77	83
890-3940-7	FS08	76	82
890-3940-8	FS09	78	85
890-3940-9	FS10	85	91
890-3940-10	FS11	78	86
890-3940-11	FS12	76	83
890-3940-12	FS13	86	86
890-3940-13	FS14	85	81
890-3940-14	FS15	103	94
890-3940-15	FS16	101	93

Surrogate Summary

Client: Ensolum Job ID: 890-3940-1
Project/Site: Redtail State Com 1H SDG: 03D2024104

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)								
LCS 880-45275/2-A	Lab Control Sample	74	78								
LCS 880-45337/2-A	Lab Control Sample	107	92								
LCSD 880-45275/3-A	Lab Control Sample Dup	82	85								
LCSD 880-45337/3-A	Lab Control Sample Dup	125	107								
MB 880-45275/1-A	Method Blank	87	95								
MB 880-45337/1-A	Method Blank	112	110								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45336/5-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45336

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*

Lab Sample ID: LCS 880-45336/1-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.09751		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09723		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.1957		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09666		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-45336/2-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	4	35
Toluene			0.100	0.1057		mg/Kg		106	70 - 130	8	35
Ethylbenzene			0.100	0.1042		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2107		mg/Kg		105	70 - 130	7	35
o-Xylene			0.100	0.1090		mg/Kg		109	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3940-1 MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1231		mg/Kg		123	70 - 130		
Toluene	<0.00201	U	0.0998	0.1255		mg/Kg		126	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

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

Lab Sample ID: 890-3940-1 MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1243		mg/Kg		125	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2459		mg/Kg		123	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1246		mg/Kg		125	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3940-1 MSD
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: SW01
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1021		mg/Kg		102	70 - 130	19	35
Toluene	<0.00201	U	0.100	0.09949		mg/Kg		99	70 - 130	23	35
Ethylbenzene	<0.00201	U	0.100	0.09971		mg/Kg		100	70 - 130	22	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1993		mg/Kg		99	70 - 130	21	35
o-Xylene	<0.00201	U	0.100	0.09513		mg/Kg		95	70 - 130	27	35

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

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

Lab Sample ID: MB 880-45275/1-A
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45275

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/04/23 20:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/04/23 20:30	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 14:55	02/04/23 20:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*87*		*70 - 130*	*02/02/23 14:55*	*02/04/23 20:30*	*1*
o-Terphenyl	*95*		*70 - 130*	*02/02/23 14:55*	*02/04/23 20:30*	*1*

Lab Sample ID: LCS 880-45275/2-A
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45275

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	746.0		mg/Kg		75	70 - 130
Diesel Range Organics (Over C10-C28)			999	837.9		mg/Kg		84	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45275/2-A
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45275

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	78		70 - 130

Lab Sample ID: LCSD 880-45275/3-A
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45275

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	825.6		mg/Kg		83	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			999	929.7		mg/Kg		93	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: 890-3930-A-1-F MS
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	1000	1403	F1	mg/Kg		137	70 - 130
Diesel Range Organics (Over C10-C28)	138		1000	1195		mg/Kg		106	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	11	S1-	70 - 130
o-Terphenyl	12	S1-	70 - 130

Lab Sample ID: 890-3930-A-1-G MSD
Matrix: Solid
Analysis Batch: 45439

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45275

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 F2	998	902.8	F2	mg/Kg		87	70 - 130	43	20
Diesel Range Organics (Over C10-C28)	138		998	1024		mg/Kg		89	70 - 130	15	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	10	S1-	70 - 130
o-Terphenyl	10	S1-	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

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

Lab Sample ID: MB 880-45337/1-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			999	903.4		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)			999	878.2		mg/Kg		88	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*107*		*70 - 130*
o-Terphenyl	*92*		*70 - 130*

Lab Sample ID: LCSD 880-45337/3-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	910.9		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			999	1007		mg/Kg		101	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*107*		*70 - 130*

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	862.5		mg/Kg		84	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.8		mg/Kg		87	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

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

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-3923-A-3-F MSD
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1297	F2	mg/Kg		127	70 - 130	40	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1003		mg/Kg		99	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	98		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44969/1-A
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/30/23 09:11	1

Lab Sample ID: LCS 880-44969/2-A
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.4		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-44969/3-A
Matrix: Solid
Analysis Batch: 45039

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.0		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3940-7 MS
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: FS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3430		2480	5784		mg/Kg		95	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3940-7 MSD
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: FS08
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3430		2480	5766		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

GC VOA

Analysis Batch: 45307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	8021B	45336
890-3940-2	SW05	Total/NA	Solid	8021B	45336
890-3940-3	SW06	Total/NA	Solid	8021B	45336
890-3940-4	SW07	Total/NA	Solid	8021B	45336
890-3940-5	FS06	Total/NA	Solid	8021B	45336
890-3940-6	FS07	Total/NA	Solid	8021B	45336
890-3940-7	FS08	Total/NA	Solid	8021B	45336
890-3940-8	FS09	Total/NA	Solid	8021B	45336
890-3940-9	FS10	Total/NA	Solid	8021B	45336
890-3940-10	FS11	Total/NA	Solid	8021B	45336
890-3940-11	FS12	Total/NA	Solid	8021B	45336
890-3940-12	FS13	Total/NA	Solid	8021B	45336
890-3940-13	FS14	Total/NA	Solid	8021B	45336
890-3940-14	FS15	Total/NA	Solid	8021B	45336
890-3940-15	FS16	Total/NA	Solid	8021B	45336
MB 880-45336/5-A	Method Blank	Total/NA	Solid	8021B	45336
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	8021B	45336
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45336
890-3940-1 MS	SW01	Total/NA	Solid	8021B	45336
890-3940-1 MSD	SW01	Total/NA	Solid	8021B	45336

Prep Batch: 45336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	5035	
890-3940-2	SW05	Total/NA	Solid	5035	
890-3940-3	SW06	Total/NA	Solid	5035	
890-3940-4	SW07	Total/NA	Solid	5035	
890-3940-5	FS06	Total/NA	Solid	5035	
890-3940-6	FS07	Total/NA	Solid	5035	
890-3940-7	FS08	Total/NA	Solid	5035	
890-3940-8	FS09	Total/NA	Solid	5035	
890-3940-9	FS10	Total/NA	Solid	5035	
890-3940-10	FS11	Total/NA	Solid	5035	
890-3940-11	FS12	Total/NA	Solid	5035	
890-3940-12	FS13	Total/NA	Solid	5035	
890-3940-13	FS14	Total/NA	Solid	5035	
890-3940-14	FS15	Total/NA	Solid	5035	
890-3940-15	FS16	Total/NA	Solid	5035	
MB 880-45336/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3940-1 MS	SW01	Total/NA	Solid	5035	
890-3940-1 MSD	SW01	Total/NA	Solid	5035	

Analysis Batch: 45476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	Total BTEX	
890-3940-2	SW05	Total/NA	Solid	Total BTEX	
890-3940-3	SW06	Total/NA	Solid	Total BTEX	
890-3940-4	SW07	Total/NA	Solid	Total BTEX	
890-3940-5	FS06	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

GC VOA (Continued)

Analysis Batch: 45476 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-6	FS07	Total/NA	Solid	Total BTEX	
890-3940-7	FS08	Total/NA	Solid	Total BTEX	
890-3940-8	FS09	Total/NA	Solid	Total BTEX	
890-3940-9	FS10	Total/NA	Solid	Total BTEX	
890-3940-10	FS11	Total/NA	Solid	Total BTEX	
890-3940-11	FS12	Total/NA	Solid	Total BTEX	
890-3940-12	FS13	Total/NA	Solid	Total BTEX	
890-3940-13	FS14	Total/NA	Solid	Total BTEX	
890-3940-14	FS15	Total/NA	Solid	Total BTEX	
890-3940-15	FS16	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	8015NM Prep	
890-3940-2	SW05	Total/NA	Solid	8015NM Prep	
890-3940-3	SW06	Total/NA	Solid	8015NM Prep	
890-3940-4	SW07	Total/NA	Solid	8015NM Prep	
890-3940-5	FS06	Total/NA	Solid	8015NM Prep	
890-3940-6	FS07	Total/NA	Solid	8015NM Prep	
890-3940-7	FS08	Total/NA	Solid	8015NM Prep	
890-3940-8	FS09	Total/NA	Solid	8015NM Prep	
890-3940-9	FS10	Total/NA	Solid	8015NM Prep	
890-3940-10	FS11	Total/NA	Solid	8015NM Prep	
890-3940-11	FS12	Total/NA	Solid	8015NM Prep	
MB 880-45275/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45275/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3930-A-1-F MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3930-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 45337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-12	FS13	Total/NA	Solid	8015NM Prep	
890-3940-13	FS14	Total/NA	Solid	8015NM Prep	
890-3940-14	FS15	Total/NA	Solid	8015NM Prep	
890-3940-15	FS16	Total/NA	Solid	8015NM Prep	
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	8015B NM	45275
890-3940-2	SW05	Total/NA	Solid	8015B NM	45275
890-3940-3	SW06	Total/NA	Solid	8015B NM	45275
890-3940-4	SW07	Total/NA	Solid	8015B NM	45275
890-3940-5	FS06	Total/NA	Solid	8015B NM	45275

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

GC Semi VOA (Continued)

Analysis Batch: 45439 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-6	FS07	Total/NA	Solid	8015B NM	45275
890-3940-7	FS08	Total/NA	Solid	8015B NM	45275
890-3940-8	FS09	Total/NA	Solid	8015B NM	45275
890-3940-9	FS10	Total/NA	Solid	8015B NM	45275
890-3940-10	FS11	Total/NA	Solid	8015B NM	45275
890-3940-11	FS12	Total/NA	Solid	8015B NM	45275
MB 880-45275/1-A	Method Blank	Total/NA	Solid	8015B NM	45275
LCS 880-45275/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45275
LCSD 880-45275/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45275
890-3930-A-1-F MS	Matrix Spike	Total/NA	Solid	8015B NM	45275
890-3930-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45275

Analysis Batch: 45443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-12	FS13	Total/NA	Solid	8015B NM	45337
890-3940-13	FS14	Total/NA	Solid	8015B NM	45337
890-3940-14	FS15	Total/NA	Solid	8015B NM	45337
890-3940-15	FS16	Total/NA	Solid	8015B NM	45337
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015B NM	45337
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45337
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45337
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45337
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45337

Analysis Batch: 45495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Total/NA	Solid	8015 NM	
890-3940-2	SW05	Total/NA	Solid	8015 NM	
890-3940-3	SW06	Total/NA	Solid	8015 NM	
890-3940-4	SW07	Total/NA	Solid	8015 NM	
890-3940-5	FS06	Total/NA	Solid	8015 NM	
890-3940-6	FS07	Total/NA	Solid	8015 NM	
890-3940-7	FS08	Total/NA	Solid	8015 NM	
890-3940-8	FS09	Total/NA	Solid	8015 NM	
890-3940-9	FS10	Total/NA	Solid	8015 NM	
890-3940-10	FS11	Total/NA	Solid	8015 NM	
890-3940-11	FS12	Total/NA	Solid	8015 NM	
890-3940-12	FS13	Total/NA	Solid	8015 NM	
890-3940-13	FS14	Total/NA	Solid	8015 NM	
890-3940-14	FS15	Total/NA	Solid	8015 NM	
890-3940-15	FS16	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Soluble	Solid	DI Leach	
890-3940-2	SW05	Soluble	Solid	DI Leach	
890-3940-3	SW06	Soluble	Solid	DI Leach	
890-3940-4	SW07	Soluble	Solid	DI Leach	
890-3940-5	FS06	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 44969 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-6	FS07	Soluble	Solid	DI Leach	
890-3940-7	FS08	Soluble	Solid	DI Leach	
890-3940-8	FS09	Soluble	Solid	DI Leach	
890-3940-9	FS10	Soluble	Solid	DI Leach	
890-3940-10	FS11	Soluble	Solid	DI Leach	
890-3940-11	FS12	Soluble	Solid	DI Leach	
890-3940-12	FS13	Soluble	Solid	DI Leach	
890-3940-13	FS14	Soluble	Solid	DI Leach	
890-3940-14	FS15	Soluble	Solid	DI Leach	
890-3940-15	FS16	Soluble	Solid	DI Leach	
MB 880-44969/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44969/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44969/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3940-7 MS	FS08	Soluble	Solid	DI Leach	
890-3940-7 MSD	FS08	Soluble	Solid	DI Leach	

Analysis Batch: 45039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-1	SW01	Soluble	Solid	300.0	44969
890-3940-2	SW05	Soluble	Solid	300.0	44969
890-3940-3	SW06	Soluble	Solid	300.0	44969
890-3940-4	SW07	Soluble	Solid	300.0	44969
890-3940-5	FS06	Soluble	Solid	300.0	44969
890-3940-6	FS07	Soluble	Solid	300.0	44969
890-3940-7	FS08	Soluble	Solid	300.0	44969
890-3940-8	FS09	Soluble	Solid	300.0	44969
890-3940-9	FS10	Soluble	Solid	300.0	44969
890-3940-10	FS11	Soluble	Solid	300.0	44969
890-3940-11	FS12	Soluble	Solid	300.0	44969
890-3940-12	FS13	Soluble	Solid	300.0	44969
890-3940-13	FS14	Soluble	Solid	300.0	44969
890-3940-14	FS15	Soluble	Solid	300.0	44969
890-3940-15	FS16	Soluble	Solid	300.0	44969
MB 880-44969/1-A	Method Blank	Soluble	Solid	300.0	44969
LCS 880-44969/2-A	Lab Control Sample	Soluble	Solid	300.0	44969
LCSD 880-44969/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44969
890-3940-7 MS	FS08	Soluble	Solid	300.0	44969
890-3940-7 MSD	FS08	Soluble	Solid	300.0	44969

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW01

Lab Sample ID: 890-3940-1
Matrix: Solid
Date Collected: 01/23/23 11:00
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 13:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 01:15	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		1			45039	01/30/23 09:54	CH	EET MID

Client Sample ID: SW05

Lab Sample ID: 890-3940-2
Matrix: Solid
Date Collected: 01/23/23 11:05
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 13:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 01:55	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		1			45039	01/30/23 10:09	CH	EET MID

Client Sample ID: SW06

Lab Sample ID: 890-3940-3
Matrix: Solid
Date Collected: 01/23/23 11:10
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 13:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 02:15	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		1			45039	01/30/23 10:13	CH	EET MID

Client Sample ID: SW07

Lab Sample ID: 890-3940-4
Matrix: Solid
Date Collected: 01/23/23 11:20
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 14:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: SW07
Date Collected: 01/23/23 11:20
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 02:36	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		1			45039	01/30/23 10:18	CH	EET MID

Client Sample ID: FS06
Date Collected: 01/23/23 11:45
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 14:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 02:56	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		10			45039	01/30/23 10:23	CH	EET MID

Client Sample ID: FS07
Date Collected: 01/23/23 11:50
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 15:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 03:17	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		50			45039	01/30/23 10:28	CH	EET MID

Client Sample ID: FS08
Date Collected: 01/23/23 11:55
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 15:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 03:36	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS08
Date Collected: 01/23/23 11:55
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		10			45039	01/30/23 10:33	CH	EET MID

Client Sample ID: FS09
Date Collected: 01/23/23 12:00
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 16:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 03:56	AJ	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 10:47	CH	EET MID

Client Sample ID: FS10
Date Collected: 01/23/23 12:05
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 16:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 04:17	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		10			45039	01/30/23 10:52	CH	EET MID

Client Sample ID: FS11
Date Collected: 01/23/23 12:10
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3940-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 17:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 04:37	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		10			45039	01/30/23 11:06	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS12

Lab Sample ID: 890-3940-11
Matrix: Solid
Date Collected: 01/23/23 12:15
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 18:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:57	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45275	02/02/23 14:55	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45439	02/05/23 04:57	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 11:11	CH	EET MID

Client Sample ID: FS13

Lab Sample ID: 890-3940-12
Matrix: Solid
Date Collected: 01/23/23 14:15
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 19:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 12:43	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 11:16	CH	EET MID

Client Sample ID: FS14

Lab Sample ID: 890-3940-13
Matrix: Solid
Date Collected: 01/23/23 14:25
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 19:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 13:05	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 11:21	CH	EET MID

Client Sample ID: FS15

Lab Sample ID: 890-3940-14
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 20:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Client Sample ID: FS15

Lab Sample ID: 890-3940-14
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 13:27	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 11:26	CH	EET MID

Client Sample ID: FS16

Lab Sample ID: 890-3940-15
Matrix: Solid
Date Collected: 01/23/23 14:30
Date Received: 01/24/23 08:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 20:32	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45476	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45495	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 13:48	AJ	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		20			45039	01/30/23 11:30	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3940-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3940-1	SW01	Solid	01/23/23 11:00	01/24/23 08:44	0-4'
890-3940-2	SW05	Solid	01/23/23 11:05	01/24/23 08:44	0-4'
890-3940-3	SW06	Solid	01/23/23 11:10	01/24/23 08:44	0-4'
890-3940-4	SW07	Solid	01/23/23 11:20	01/24/23 08:44	0-4'
890-3940-5	FS06	Solid	01/23/23 11:45	01/24/23 08:44	4'
890-3940-6	FS07	Solid	01/23/23 11:50	01/24/23 08:44	4'
890-3940-7	FS08	Solid	01/23/23 11:55	01/24/23 08:44	4'
890-3940-8	FS09	Solid	01/23/23 12:00	01/24/23 08:44	4'
890-3940-9	FS10	Solid	01/23/23 12:05	01/24/23 08:44	4'
890-3940-10	FS11	Solid	01/23/23 12:10	01/24/23 08:44	4'
890-3940-11	FS12	Solid	01/23/23 12:15	01/24/23 08:44	4'
890-3940-12	FS13	Solid	01/23/23 14:15	01/24/23 08:44	4'
890-3940-13	FS14	Solid	01/23/23 14:25	01/24/23 08:44	4'
890-3940-14	FS15	Solid	01/23/23 14:30	01/24/23 08:44	4'
890-3940-15	FS16	Solid	01/23/23 14:30	01/24/23 08:44	4'

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Chain of Custody

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

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Work Order No: _____

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

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

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
SW01	S	1/23/23	1100	0-4'	C	1				
SW05	S	1/23/23	1105	0-4'	C	1				
SW06	S	1/23/23	1110	0-4'	C	1				
SW07	S	1/23/23	1120	0-4'	C	1				
FS06	S	1/23/23	1145	4'	C	1				
FS07	S	1/23/23	1150	4'	C	1				
FS08	S	1/23/23	1155	4'	C	1				
FS09	S	1/23/23	1200	4'	C	1				
FS10	S	1/23/23	1205	4'	C	1				
FS11	S	1/23/23	1210	4'	C	1				

890-3940 Chain of Custody

Preservative Codes

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

Sample Comments

nrrp2223239048

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Julianna Falcomata	Amanda Stuff	1-24-23 0844			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	
Project Number:	03D2024104	☑ Routine ☐ Rush	
Project Location:	32.3398, -103.6388	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

None: NO; DI Water: H_2O; Cool: Cool; MeOH: Me; HCL: HC; HNO_3: HN; H_2S0_4: H_2; NaOH: Na; H_3PO_4: HP; $NaHSO_4$: NABIS; $Na_2S_2O_3$: $NaSO_3$; Zn Acetate+NaOH: Zn; NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS12	S	01/23/23	1215	4'	C	1		✓	✓	✓	
FS13	S	01/23/23	1415	4'	C	1		✓	✓	✓	nAPP2323390048
FS14	S	01/23/23	1425	4'	C	1		✓	✓	✓	
FS15	S	01/23/23	1430	4'	C	1		✓	✓	✓	
~~FS16~~											

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Falcomata	Amanda Stuf	1-24-23 0544			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020 2

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2/5/2023

Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3940-1
SDG Number: 03D2024104

Login Number: 3940
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3940-1
SDG Number: 03D2024104

Login Number: 3940
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/25/23 12:13 PM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/5/2023 9:33:39 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3941-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

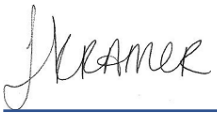
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/5/2023 9:33:39 AM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3941-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3941-1
Project/Site: Redtail State Com 1H SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Job ID: 890-3941-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3941-1

Receipt
The sample was received on 1/24/2023 8:44 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 4.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS04 (890-3941-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-45336/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-45337 and analytical batch 880-45443 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Client Sample ID: SS04

Date Collected: 01/23/23 11:25
Date Received: 01/24/23 08:44
Sample Depth: 0.5'

Lab Sample ID: 890-3941-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:59	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:59	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:59	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:59	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 20:59	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:59*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*02/03/23 09:22*	*02/03/23 20:59*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:09	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*97*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:09*	*1*
o-Terphenyl	*82*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:09*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**169**		4.98		mg/Kg			01/29/23 20:34	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3940-A-1-C MS	Matrix Spike	106	107
890-3940-A-1-D MSD	Matrix Spike Duplicate	90	106
890-3941-1	SS04	98	103
LCS 880-45336/1-A	Lab Control Sample	86	104
LCSD 880-45336/2-A	Lab Control Sample Dup	95	106
MB 880-45336/5-A	Method Blank	64 S1-	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3923-A-3-E MS	Matrix Spike	107	86
890-3923-A-3-F MSD	Matrix Spike Duplicate	123	98
890-3941-1	SS04	97	82
LCS 880-45337/2-A	Lab Control Sample	107	92
LCSD 880-45337/3-A	Lab Control Sample Dup	125	107
MB 880-45337/1-A	Method Blank	112	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45336/5-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45336

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*

Lab Sample ID: LCS 880-45336/1-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.09751		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09723		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.1957		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09666		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-45336/2-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	4	35
Toluene			0.100	0.1057		mg/Kg		106	70 - 130	8	35
Ethylbenzene			0.100	0.1042		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2107		mg/Kg		105	70 - 130	7	35
o-Xylene			0.100	0.1090		mg/Kg		109	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1231		mg/Kg		123	70 - 130		
Toluene	<0.00201	U	0.0998	0.1255		mg/Kg		126	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

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

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1243		mg/Kg		125	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2459		mg/Kg		123	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1246		mg/Kg		125	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3940-A-1-D MSD
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1021		mg/Kg		102	70 - 130	19	35
Toluene	<0.00201	U	0.100	0.09949		mg/Kg		99	70 - 130	23	35
Ethylbenzene	<0.00201	U	0.100	0.09971		mg/Kg		100	70 - 130	22	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1993		mg/Kg		99	70 - 130	21	35
o-Xylene	<0.00201	U	0.100	0.09513		mg/Kg		95	70 - 130	27	35

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

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

Lab Sample ID: MB 880-45337/1-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	903.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)			999	878.2		mg/Kg		88	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-45337/3-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	910.9		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			999	1007		mg/Kg		101	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	862.5		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.8		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-3923-A-3-F MSD
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1297	F2	mg/Kg		127	70 - 130	40	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1003		mg/Kg		99	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44795/1-A
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/29/23 17:36	1

Lab Sample ID: LCS 880-44795/2-A
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-44795/3-A
Matrix: Solid
Analysis Batch: 45051

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.8		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3928-A-3-B MS
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	8.18		248	237.7		mg/Kg		93	90 - 110		

Lab Sample ID: 890-3928-A-3-C MSD
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.18		248	238.4		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

GC VOA

Analysis Batch: 45307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	8021B	45336
MB 880-45336/5-A	Method Blank	Total/NA	Solid	8021B	45336
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	8021B	45336
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45336
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	45336
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45336

Prep Batch: 45336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	5035	
MB 880-45336/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	8015B NM	45337
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015B NM	45337
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45337
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45337
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45337
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45337

Analysis Batch: 45496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Soluble	Solid	DI Leach	
MB 880-44795/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 44795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3941-1	SS04	Soluble	Solid	300.0	44795
MB 880-44795/1-A	Method Blank	Soluble	Solid	300.0	44795
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	300.0	44795
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44795
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44795
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44795

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Client Sample ID: SS04

Date Collected: 01/23/23 11:25
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3941-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 20:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45477	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45496	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 14:09	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 20:34	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3941-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3941-1	SS04	Solid	01/23/23 11:25	01/24/23 08:44	0.5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

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

ANALYSIS REQUEST

Preservative Codes

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

890-3941 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS04	S	01/23/23	1125	.5'	C	1		✓	✓	✓	nAPP2233239045

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Julianna Falcomata	Amanda Short	1-24-23 0844			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3941-1
SDG Number: 03D2024104

Login Number: 3941
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3941-1
SDG Number: 03D2024104

Login Number: 3941
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/25/23 12:13 PM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/5/2023 9:33:55 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3942-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

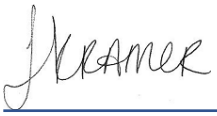
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3942-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Job ID: 890-3942-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3942-1

Receipt
The sample was received on 1/24/2023 8:44 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 4.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-3942-1).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-45336/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-45337 and analytical batch 880-45443 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Client Sample ID: SS05

Date Collected: 01/23/23 11:30
Date Received: 01/24/23 08:44
Sample Depth: 0.5'

Lab Sample ID: 890-3942-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 21:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 21:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 21:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 21:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/03/23 09:22	02/03/23 21:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/03/23 09:22	02/03/23 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*02/03/23 09:22*	*02/03/23 21:25*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/03/23 09:22*	*02/03/23 21:25*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/04/23 10:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:30	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:30	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:30*	*1*
o-Terphenyl	*77*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8.32**		4.97		mg/Kg			01/29/23 20:40	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3940-A-1-C MS	Matrix Spike	106	107
890-3940-A-1-D MSD	Matrix Spike Duplicate	90	106
890-3942-1	SS05	100	102
LCS 880-45336/1-A	Lab Control Sample	86	104
LCSD 880-45336/2-A	Lab Control Sample Dup	95	106
MB 880-45336/5-A	Method Blank	64 S1-	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3923-A-3-E MS	Matrix Spike	107	86
890-3923-A-3-F MSD	Matrix Spike Duplicate	123	98
890-3942-1	SS05	82	77
LCS 880-45337/2-A	Lab Control Sample	107	92
LCSD 880-45337/3-A	Lab Control Sample Dup	125	107
MB 880-45337/1-A	Method Blank	112	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45336/5-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45336

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*

Lab Sample ID: LCS 880-45336/1-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.09751		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09723		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.1957		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09666		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-45336/2-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	4	35
Toluene			0.100	0.1057		mg/Kg		106	70 - 130	8	35
Ethylbenzene			0.100	0.1042		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2107		mg/Kg		105	70 - 130	7	35
o-Xylene			0.100	0.1090		mg/Kg		109	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1231		mg/Kg		123	70 - 130		
Toluene	<0.00201	U	0.0998	0.1255		mg/Kg		126	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

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

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1243		mg/Kg		125	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2459		mg/Kg		123	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1246		mg/Kg		125	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3940-A-1-D MSD
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1021		mg/Kg		102	70 - 130	19	35
Toluene	<0.00201	U	0.100	0.09949		mg/Kg		99	70 - 130	23	35
Ethylbenzene	<0.00201	U	0.100	0.09971		mg/Kg		100	70 - 130	22	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1993		mg/Kg		99	70 - 130	21	35
o-Xylene	<0.00201	U	0.100	0.09513		mg/Kg		95	70 - 130	27	35

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

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

Lab Sample ID: MB 880-45337/1-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	903.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)			999	878.2		mg/Kg		88	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-45337/3-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	910.9		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			999	1007		mg/Kg		101	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	862.5		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.8		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-3923-A-3-F MSD
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1297	F2	mg/Kg		127	70 - 130	40	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1003		mg/Kg		99	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44795/1-A
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/29/23 17:36	1

Lab Sample ID: LCS 880-44795/2-A
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	249.3		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-44795/3-A
Matrix: Solid
Analysis Batch: 45051

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.8		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3928-A-3-B MS
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	8.18		248	237.7		mg/Kg		93	90 - 110		

Lab Sample ID: 890-3928-A-3-C MSD
Matrix: Solid
Analysis Batch: 45051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	8.18		248	238.4		mg/Kg		93	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

GC VOA

Analysis Batch: 45307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	8021B	45336
MB 880-45336/5-A	Method Blank	Total/NA	Solid	8021B	45336
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	8021B	45336
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45336
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	45336
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45336

Prep Batch: 45336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	5035	
MB 880-45336/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	8015B NM	45337
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015B NM	45337
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45337
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45337
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45337
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45337

Analysis Batch: 45497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Soluble	Solid	DI Leach	
MB 880-44795/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 44795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3942-1	SS05	Soluble	Solid	300.0	44795
MB 880-44795/1-A	Method Blank	Soluble	Solid	300.0	44795
LCS 880-44795/2-A	Lab Control Sample	Soluble	Solid	300.0	44795
LCSD 880-44795/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44795
890-3928-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	44795
890-3928-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44795

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Client Sample ID: SS05

Date Collected: 01/23/23 11:30
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3942-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/03/23 21:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45478	02/04/23 10:13	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45497	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 14:30	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	44795	01/26/23 08:36	CH	EET MID
Soluble	Analysis	300.0		1			45051	01/29/23 20:40	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3942-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3942-1	SS05	Solid	01/23/23 11:30	01/24/23 08:44	0.5'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

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

ANALYSIS REQUEST

Pres. Code / Parameters: CHLORIDES (EPA: 300.0) ✓ | TPH (8015) ✓ | BTEX (8021) ✓

890-3942 Chain of Custody

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2S0_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Sample Comments
SS05	S	01/23/23	1130	.5'	C	1	nAPP2233239048

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		Amanda Stuy	1-24-23 0944			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020 2

Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3942-1
SDG Number: 03D2024104

Login Number: 3942
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3942-1
SDG Number: 03D2024104

Login Number: 3942
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/25/23 12:13 PM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/5/2023 9:38:32 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3943-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

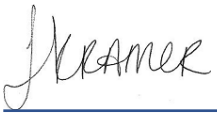
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/5/2023 9:38:32 AM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3943-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3943-1
Project/Site: Redtail State Com 1H SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Job ID: 890-3943-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3943-1

Receipt
The sample was received on 1/24/2023 8:44 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 4.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS06 (890-3943-1).

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-45337 and analytical batch 880-45443 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Client Sample ID: SS06

Date Collected: 01/23/23 11:35
Date Received: 01/24/23 08:44
Sample Depth: 0.5'

Lab Sample ID: 890-3943-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/04/23 10:30	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/04/23 10:30	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/04/23 10:30	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/04/23 10:30	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/04/23 10:30	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/03/23 09:22	02/04/23 10:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*	*02/03/23 09:22*	*02/04/23 10:30*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*02/03/23 09:22*	*02/04/23 10:30*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/05/23 10:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:52	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*79*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:52*	*1*
o-Terphenyl	*73*		*70 - 130*	*02/03/23 09:23*	*02/04/23 14:52*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**223**		4.98		mg/Kg			01/30/23 11:35	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3940-A-1-C MS	Matrix Spike	106	107
890-3940-A-1-D MSD	Matrix Spike Duplicate	90	106
890-3943-1	SS06	89	88
LCS 880-45336/1-A	Lab Control Sample	86	104
LCSD 880-45336/2-A	Lab Control Sample Dup	95	106
MB 880-45336/5-A	Method Blank	64 S1-	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3923-A-3-E MS	Matrix Spike	107	86
890-3923-A-3-F MSD	Matrix Spike Duplicate	123	98
890-3943-1	SS06	79	73
LCS 880-45337/2-A	Lab Control Sample	107	92
LCSD 880-45337/3-A	Lab Control Sample Dup	125	107
MB 880-45337/1-A	Method Blank	112	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45336/5-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45336

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:22	02/03/23 12:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 09:22	02/03/23 12:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*02/03/23 09:22*	*02/03/23 12:40*	*1*

Lab Sample ID: LCS 880-45336/1-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1031		mg/Kg		103	70 - 130		
Toluene			0.100	0.09751		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09723		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.1957		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09666		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-45336/2-A
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45336

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1071		mg/Kg		107	70 - 130	4	35
Toluene			0.100	0.1057		mg/Kg		106	70 - 130	8	35
Ethylbenzene			0.100	0.1042		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene			0.200	0.2107		mg/Kg		105	70 - 130	7	35
o-Xylene			0.100	0.1090		mg/Kg		109	70 - 130	12	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.0998	0.1231		mg/Kg		123	70 - 130		
Toluene	<0.00201	U	0.0998	0.1255		mg/Kg		126	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

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

Lab Sample ID: 890-3940-A-1-C MS
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.1243		mg/Kg		125	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2459		mg/Kg		123	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1246		mg/Kg		125	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-3940-A-1-D MSD
Matrix: Solid
Analysis Batch: 45307

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45336

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1021		mg/Kg		102	70 - 130	19	35
Toluene	<0.00201	U	0.100	0.09949		mg/Kg		99	70 - 130	23	35
Ethylbenzene	<0.00201	U	0.100	0.09971		mg/Kg		100	70 - 130	22	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1993		mg/Kg		99	70 - 130	21	35
o-Xylene	<0.00201	U	0.100	0.09513		mg/Kg		95	70 - 130	27	35

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

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

Lab Sample ID: MB 880-45337/1-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	903.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)			999	878.2		mg/Kg		88	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-45337/3-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	910.9		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			999	1007		mg/Kg		101	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	862.5		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.8		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-3923-A-3-F MSD
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1297	F2	mg/Kg		127	70 - 130	40	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1003		mg/Kg		99	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44969/1-A
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/30/23 09:11	1

Lab Sample ID: LCS 880-44969/2-A
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	255.4		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-44969/3-A
Matrix: Solid
Analysis Batch: 45039

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.0		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 890-3940-A-7-B MS
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3430		2480	5784		mg/Kg		95	90 - 110		

Lab Sample ID: 890-3940-A-7-C MSD
Matrix: Solid
Analysis Batch: 45039

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3430		2480	5766		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

GC VOA

Analysis Batch: 45307

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	8021B	45336
MB 880-45336/5-A	Method Blank	Total/NA	Solid	8021B	45336
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	8021B	45336
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45336
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	45336
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45336

Prep Batch: 45336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	5035	
MB 880-45336/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45336/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45336/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3940-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-3940-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	8015NM Prep	
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	8015B NM	45337
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015B NM	45337
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45337
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45337
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45337
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45337

Analysis Batch: 45498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Soluble	Solid	DI Leach	
MB 880-44969/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44969/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44969/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 44969 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3940-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3940-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3943-1	SS06	Soluble	Solid	300.0	44969
MB 880-44969/1-A	Method Blank	Soluble	Solid	300.0	44969
LCS 880-44969/2-A	Lab Control Sample	Soluble	Solid	300.0	44969
LCSD 880-44969/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44969
890-3940-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	44969
890-3940-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	44969

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Client Sample ID: SS06

Date Collected: 01/23/23 11:35
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3943-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45336	02/03/23 09:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45307	02/04/23 10:30	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45528	02/05/23 10:21	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45498	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 14:52	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	44969	01/29/23 17:44	KS	EET MID
Soluble	Analysis	300.0		1			45039	01/30/23 11:35	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3943-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3943-1	SS06	Solid	01/23/23 11:35	01/24/23 08:44	0.5'

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2/5/2023

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Chain of Custody

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

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Work Order No: _____

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024104	Due Date:	
Project Location:	32.3398, -103.6388	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

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

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS06	S	01/23/23	1135	.5'	C	1		✓	✓	✓	nAPP2323234048

890-3943 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

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

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Julianna Falcomata	Amanda Stegt	1-24-23 0744			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3943-1
SDG Number: 03D2024104

Login Number: 3943
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3943-1
SDG Number: 03D2024104

Login Number: 3943
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/25/23 12:13 PM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 2/5/2023 9:34:13 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER 03D2024104

JOB NUMBER

890-3944-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

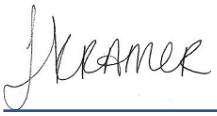
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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2/5/2023 9:34:13 AM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 890-3944-1
SDG: 03D2024104

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Job ID: 890-3944-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3944-1

Receipt
The sample was received on 1/24/2023 8:44 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 4.0°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS07 (890-3944-1).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-45339 and analytical batch 880-45309 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS07 (890-3944-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-45337 and analytical batch 880-45443 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Client Sample ID: SS07

Date Collected: 01/23/23 11:40
Date Received: 01/24/23 08:44
Sample Depth: 0.5'

Lab Sample ID: 890-3944-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:46	1
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.00399		mg/Kg		02/03/23 09:50	02/03/23 12:46	1
o-Xylene	<0.00200	U F1 F2	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:46	1
Xylenes, Total	<0.00399	U F1 F2	0.00399		mg/Kg		02/03/23 09:50	02/03/23 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*02/03/23 09:50*	*02/03/23 12:46*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*02/03/23 09:50*	*02/03/23 12:46*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/04/23 10:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/05/23 09:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 15:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 15:13	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*02/03/23 09:23*	*02/04/23 15:13*	*1*
o-Terphenyl	*85*		*70 - 130*	*02/03/23 09:23*	*02/04/23 15:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.79**		5.05		mg/Kg			01/30/23 09:35	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3944-1	SS07	68 S1-	80
890-3944-1 MS	SS07	64 S1-	88
890-3944-1 MSD	SS07	119	100
LCS 880-45339/1-A	Lab Control Sample	98	95
LCSD 880-45339/2-A	Lab Control Sample Dup	104	95
MB 880-45339/5-A	Method Blank	75	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3923-A-3-E MS	Matrix Spike	107	86
890-3923-A-3-F MSD	Matrix Spike Duplicate	123	98
890-3944-1	SS07	95	85
LCS 880-45337/2-A	Lab Control Sample	107	92
LCSD 880-45337/3-A	Lab Control Sample Dup	125	107
MB 880-45337/1-A	Method Blank	112	110

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45339/5-A
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:24	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:24	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:24	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 09:50	02/03/23 12:24	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 09:50	02/03/23 12:24	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 09:50	02/03/23 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*75*		*70 - 130*	*02/03/23 09:50*	*02/03/23 12:24*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*02/03/23 09:50*	*02/03/23 12:24*	*1*

Lab Sample ID: LCS 880-45339/1-A
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45339

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1035		mg/Kg		103	70 - 130		
Toluene			0.100	0.09635		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.09708		mg/Kg		97	70 - 130		
m-Xylene & p-Xylene			0.200	0.2017		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.1095		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-45339/2-A
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45339

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1043		mg/Kg		104	70 - 130	1	35
Toluene			0.100	0.09819		mg/Kg		98	70 - 130	2	35
Ethylbenzene			0.100	0.09855		mg/Kg		99	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2080		mg/Kg		104	70 - 130	3	35
o-Xylene			0.100	0.1070		mg/Kg		107	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-3944-1 MS
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: SS07
Prep Type: Total/NA
Prep Batch: 45339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0996	0.06961		mg/Kg		70	70 - 130		
Toluene	<0.00200	U	0.0996	0.08014		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

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

Lab Sample ID: 890-3944-1 MS
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: SS07
Prep Type: Total/NA
Prep Batch: 45339

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.0996	0.07706		mg/Kg		77	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.199	0.1174	F1	mg/Kg		59	70 - 130
o-Xylene	<0.00200	U F1 F2	0.0996	0.05641	F1	mg/Kg		56	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*64*	*S1-*	*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 890-3944-1 MSD
Matrix: Solid
Analysis Batch: 45309

Client Sample ID: SS07
Prep Type: Total/NA
Prep Batch: 45339

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.09353		mg/Kg		93	70 - 130	29	35
Toluene	<0.00200	U	0.100	0.09465		mg/Kg		94	70 - 130	17	35
Ethylbenzene	<0.00200	U	0.100	0.1052		mg/Kg		105	70 - 130	31	35
m-Xylene & p-Xylene	<0.00399	U F1 F2	0.200	0.2304	F2	mg/Kg		115	70 - 130	65	35
o-Xylene	<0.00200	U F1 F2	0.100	0.1150	F2	mg/Kg		114	70 - 130	68	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

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

Lab Sample ID: MB 880-45337/1-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45337

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/03/23 09:23	02/04/23 08:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*
o-Terphenyl	*110*		*70 - 130*	*02/03/23 09:23*	*02/04/23 08:56*	*1*

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	903.4		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)			999	878.2		mg/Kg		88	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

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

Lab Sample ID: LCS 880-45337/2-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45337

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	92		70 - 130

Lab Sample ID: LCSD 880-45337/3-A
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45337

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	910.9		mg/Kg		91	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			999	1007		mg/Kg		101	70 - 130	14	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	125		70 - 130
o-Terphenyl	107		70 - 130

Lab Sample ID: 890-3923-A-3-E MS
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	862.5		mg/Kg		84	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	883.8		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	107		70 - 130
o-Terphenyl	86		70 - 130

Lab Sample ID: 890-3923-A-3-F MSD
Matrix: Solid
Analysis Batch: 45443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	998	1297	F2	mg/Kg		127	70 - 130	40	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	1003		mg/Kg		99	70 - 130	13	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-44970/1-A
Matrix: Solid
Analysis Batch: 45040

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/30/23 09:16	1

Lab Sample ID: LCS 880-44970/2-A
Matrix: Solid
Analysis Batch: 45040

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.2		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-44970/3-A
Matrix: Solid
Analysis Batch: 45040

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	253.6		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-3944-1 MS
Matrix: Solid
Analysis Batch: 45040

Client Sample ID: SS07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	5.79		253	235.7		mg/Kg		91	90 - 110		

Lab Sample ID: 890-3944-1 MSD
Matrix: Solid
Analysis Batch: 45040

Client Sample ID: SS07
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.79		253	238.0		mg/Kg		92	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

GC VOA

Analysis Batch: 45309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	8021B	45339
MB 880-45339/5-A	Method Blank	Total/NA	Solid	8021B	45339
LCS 880-45339/1-A	Lab Control Sample	Total/NA	Solid	8021B	45339
LCSD 880-45339/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45339
890-3944-1 MS	SS07	Total/NA	Solid	8021B	45339
890-3944-1 MSD	SS07	Total/NA	Solid	8021B	45339

Prep Batch: 45339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	5035	
MB 880-45339/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45339/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45339/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3944-1 MS	SS07	Total/NA	Solid	5035	
890-3944-1 MSD	SS07	Total/NA	Solid	5035	

Analysis Batch: 45464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	8015NM Prep	
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	8015B NM	45337
MB 880-45337/1-A	Method Blank	Total/NA	Solid	8015B NM	45337
LCS 880-45337/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45337
LCSD 880-45337/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45337
890-3923-A-3-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45337
890-3923-A-3-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45337

Analysis Batch: 45499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 44970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Soluble	Solid	DI Leach	
MB 880-44970/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44970/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44970/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

HPLC/IC (Continued)

Leach Batch: 44970 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1 MS	SS07	Soluble	Solid	DI Leach	
890-3944-1 MSD	SS07	Soluble	Solid	DI Leach	

Analysis Batch: 45040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3944-1	SS07	Soluble	Solid	300.0	44970
MB 880-44970/1-A	Method Blank	Soluble	Solid	300.0	44970
LCS 880-44970/2-A	Lab Control Sample	Soluble	Solid	300.0	44970
LCSD 880-44970/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44970
890-3944-1 MS	SS07	Soluble	Solid	300.0	44970
890-3944-1 MSD	SS07	Soluble	Solid	300.0	44970

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Client Sample ID: SS07

Date Collected: 01/23/23 11:40
Date Received: 01/24/23 08:44

Lab Sample ID: 890-3944-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45339	02/03/23 09:50	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45309	02/03/23 12:46	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45464	02/04/23 10:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45499	02/05/23 09:31	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45337	02/03/23 09:23	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45443	02/04/23 15:13	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	44970	01/29/23 17:45	KS	EET MID
Soluble	Analysis	300.0		1			45040	01/30/23 09:35	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

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

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 890-3944-1
SDG: 03D2024104

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3944-1	SS07	Solid	01/23/23 11:40	01/24/23 08:44	0.5'

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2/5/2023

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	
Project Number:	03D2024104	☑ Routine ☐ Rush	
Project Location:	32.3398, -103.6388	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2S0_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS07	S	01/23/23	1140	.5'	C	1		X	X	X	mpp2233239048

890-3944 Chain of Custody

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			1-24-23 0544			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020 2

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Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3944-1
SDG Number: 03D2024104

Login Number: 3944
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3944-1
SDG Number: 03D2024104

Login Number: 3944
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/25/23 12:13 PM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Josh Adams
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/16/2022 8:53:15 AM

JOB DESCRIPTION

Redtail State Com 1H
SDG NUMBER Lea County NM

JOB NUMBER

880-22248-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

Released to Imaging: 5/21/2023 2:39:28 PM

Eurofins Midland

Job Notes

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

Authorization

Generated
12/16/2022 8:53:15 AM

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

Client: Ensolum
Project/Site: Redtail State Com 1H

Laboratory Job ID: 880-22248-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-22248-1
Project/Site: Redtail State Com 1H SDG: Lea County NM

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Job ID: 880-22248-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-22248-1

Receipt
The samples were received on 12/2/2022 1:44 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41765 and analytical batch 880-41865 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS01 (880-22248-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41765 and analytical batch 880-41865 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS03 (880-22248-3) and (MB 880-41297/1-A). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Client Sample ID: SS01

Lab Sample ID: 880-22248-1
Matrix: Solid
Date Collected: 12/02/22 10:55
Date Received: 12/02/22 13:44
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:23	12/15/22 23:03	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:23	12/15/22 23:03	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:23	12/15/22 23:03	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/13/22 15:23	12/15/22 23:03	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/13/22 15:23	12/15/22 23:03	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/13/22 15:23	12/15/22 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*66*	*S1-*	*70 - 130*	*12/13/22 15:23*	*12/15/22 23:03*	*1*
1,4-Difluorobenzene (Surr)	*68*	*S1-*	*70 - 130*	*12/13/22 15:23*	*12/15/22 23:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			12/16/22 09:39	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/09/22 20:41	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 17:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 17:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*12/07/22 15:29*	*12/09/22 17:38*	*1*
o-Terphenyl	*108*		*70 - 130*	*12/07/22 15:29*	*12/09/22 17:38*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**31.8**		5.01		mg/Kg			12/12/22 00:00	1

Client Sample ID: SS02

Lab Sample ID: 880-22248-2
Matrix: Solid
Date Collected: 12/02/22 11:00
Date Received: 12/02/22 13:44
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 23:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 23:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 23:23	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/13/22 15:23	12/15/22 23:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 23:23	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/13/22 15:23	12/15/22 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*12/13/22 15:23*	*12/15/22 23:23*	*1*

Eurofins Midland

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Client Sample ID: SS02

Lab Sample ID: 880-22248-2
Matrix: Solid
Date Collected: 12/02/22 11:00
Date Received: 12/02/22 13:44
Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*12/13/22 15:23*	*12/15/22 23:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			12/16/22 09:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**214**		49.9	mg/Kg			12/09/22 20:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/07/22 15:29	12/09/22 17:59	1
Diesel Range Organics (Over C10-C28)	**71.4**		49.9	mg/Kg		12/07/22 15:29	12/09/22 17:59	1
Oil Range Organics (Over C28-C36)	**143**		49.9	mg/Kg		12/07/22 15:29	12/09/22 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*111*		*70 - 130*	*12/07/22 15:29*	*12/09/22 17:59*	*1*
o-Terphenyl	*117*		*70 - 130*	*12/07/22 15:29*	*12/09/22 17:59*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**31.3**		5.02	mg/Kg			12/12/22 00:06	1

Client Sample ID: SS03

Lab Sample ID: 880-22248-3
Matrix: Solid
Date Collected: 12/02/22 11:05
Date Received: 12/02/22 13:44
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/13/22 15:23	12/15/22 23:44	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/13/22 15:23	12/15/22 23:44	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/13/22 15:23	12/15/22 23:44	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		12/13/22 15:23	12/15/22 23:44	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/13/22 15:23	12/15/22 23:44	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		12/13/22 15:23	12/15/22 23:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*12/13/22 15:23*	*12/15/22 23:44*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*12/13/22 15:23*	*12/15/22 23:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			12/16/22 09:39	1

Client Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Client Sample ID: SS03

Date Collected: 12/02/22 11:05
Date Received: 12/02/22 13:44
Sample Depth: 0.5'

Lab Sample ID: 880-22248-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/09/22 20:41	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 18:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 18:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*31*	*S1-*	*70 - 130*	*12/07/22 15:29*	*12/09/22 18:19*	*1*
o-Terphenyl	*31*	*S1-*	*70 - 130*	*12/07/22 15:29*	*12/09/22 18:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**39.4**		4.98		mg/Kg			12/09/22 11:30	1

Surrogate Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-22248-1	SS01	66 S1-	68 S1-										
880-22248-2	SS02	109	99										
880-22248-3	SS03	108	94										
LCS 880-41765/1-A	Lab Control Sample	101	98										
LCSD 880-41765/2-A	Lab Control Sample Dup	102	93										
MB 880-41759/5-A	Method Blank	98	86										
MB 880-41765/5-A	Method Blank	94	91										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-22248-1	SS01	104	108										
880-22248-2	SS02	111	117										
880-22248-3	SS03	31 S1-	31 S1-										
LCS 880-41297/2-A	Lab Control Sample	92	95										
LCSD 880-41297/3-A	Lab Control Sample Dup	88	91										
MB 880-41297/1-A	Method Blank	102	140 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41759/5-A
Matrix: Solid
Analysis Batch: 41865

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41759

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:43	12/15/22 11:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:43	12/15/22 11:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:43	12/15/22 11:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/22 13:43	12/15/22 11:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 13:43	12/15/22 11:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/22 13:43	12/15/22 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*12/13/22 13:43*	*12/15/22 11:39*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*12/13/22 13:43*	*12/15/22 11:39*	*1*

Lab Sample ID: MB 880-41765/5-A
Matrix: Solid
Analysis Batch: 41865

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41765

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 22:20	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 22:20	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 22:20	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/13/22 15:23	12/15/22 22:20	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/13/22 15:23	12/15/22 22:20	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/13/22 15:23	12/15/22 22:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*12/13/22 15:23*	*12/15/22 22:20*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*12/13/22 15:23*	*12/15/22 22:20*	*1*

Lab Sample ID: LCS 880-41765/1-A
Matrix: Solid
Analysis Batch: 41865

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41765

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09473		mg/Kg		95	70 - 130		
Toluene			0.100	0.08692		mg/Kg		87	70 - 130		
Ethylbenzene			0.100	0.08320		mg/Kg		83	70 - 130		
m-Xylene & p-Xylene			0.200	0.1830		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09306		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-41765/2-A
Matrix: Solid
Analysis Batch: 41865

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41765

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1009		mg/Kg		101	70 - 130	6	35

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

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

Lab Sample ID: LCSD 880-41765/2-A
Matrix: Solid
Analysis Batch: 41865

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41765

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09311		mg/Kg		93	70 - 130	7	35
Ethylbenzene			0.100	0.09067		mg/Kg		91	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.1981		mg/Kg		99	70 - 130	8	35
o-Xylene			0.100	0.1003		mg/Kg		100	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

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

Lab Sample ID: MB 880-41297/1-A
Matrix: Solid
Analysis Batch: 41416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41297

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 09:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 09:49	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/07/22 15:29	12/09/22 09:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*12/07/22 15:29*	*12/09/22 09:49*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*12/07/22 15:29*	*12/09/22 09:49*	*1*

Lab Sample ID: LCS 880-41297/2-A
Matrix: Solid
Analysis Batch: 41416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41297

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	890.6		mg/Kg		89	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	865.8		mg/Kg		87	70 - 130		

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

Lab Sample ID: LCSD 880-41297/3-A
Matrix: Solid
Analysis Batch: 41416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41297

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	837.9		mg/Kg		84	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	863.4		mg/Kg		86	70 - 130	0	20

Eurofins Midland

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

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

Lab Sample ID: LCSD 880-41297/3-A
Matrix: Solid
Analysis Batch: 41416

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41297

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	88		70 - 130
o-Terphenyl	91		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-40994/1-A
Matrix: Solid
Analysis Batch: 41276

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/09/22 11:10	1

Lab Sample ID: LCS 880-40994/2-A
Matrix: Solid
Analysis Batch: 41276

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	262.5		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 880-40994/3-A
Matrix: Solid
Analysis Batch: 41276

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	263.2		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 880-22248-3 MS
Matrix: Solid
Analysis Batch: 41276

Client Sample ID: SS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	39.4		249	284.9		mg/Kg		99	90 - 110		

Lab Sample ID: 880-22248-3 MSD
Matrix: Solid
Analysis Batch: 41276

Client Sample ID: SS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	39.4		249	285.6		mg/Kg		99	90 - 110	0	20

Lab Sample ID: MB 880-41241/1-A
Matrix: Solid
Analysis Batch: 41536

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/11/22 21:38	1

QC Sample Results

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-41241/2-A
Matrix: Solid
Analysis Batch: 41536

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	258.2		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-41241/3-A
Matrix: Solid
Analysis Batch: 41536

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	258.7		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

GC VOA

Prep Batch: 41759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-41759/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 41765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	5035	
880-22248-2	SS02	Total/NA	Solid	5035	
880-22248-3	SS03	Total/NA	Solid	5035	
MB 880-41765/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-41765/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-41765/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 41865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	8021B	41765
880-22248-2	SS02	Total/NA	Solid	8021B	41765
880-22248-3	SS03	Total/NA	Solid	8021B	41765
MB 880-41759/5-A	Method Blank	Total/NA	Solid	8021B	41759
MB 880-41765/5-A	Method Blank	Total/NA	Solid	8021B	41765
LCS 880-41765/1-A	Lab Control Sample	Total/NA	Solid	8021B	41765
LCSD 880-41765/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	41765

Analysis Batch: 42004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	Total BTEX	
880-22248-2	SS02	Total/NA	Solid	Total BTEX	
880-22248-3	SS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	8015NM Prep	
880-22248-2	SS02	Total/NA	Solid	8015NM Prep	
880-22248-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-41297/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41297/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41297/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	8015B NM	41297
880-22248-2	SS02	Total/NA	Solid	8015B NM	41297
880-22248-3	SS03	Total/NA	Solid	8015B NM	41297
MB 880-41297/1-A	Method Blank	Total/NA	Solid	8015B NM	41297
LCS 880-41297/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41297
LCSD 880-41297/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41297

Analysis Batch: 41507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Total/NA	Solid	8015 NM	
880-22248-2	SS02	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

GC Semi VOA (Continued)

Analysis Batch: 41507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-3	SS03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 40994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-3	SS03	Soluble	Solid	DI Leach	
MB 880-40994/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-40994/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-40994/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-22248-3 MS	SS03	Soluble	Solid	DI Leach	
880-22248-3 MSD	SS03	Soluble	Solid	DI Leach	

Leach Batch: 41241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Soluble	Solid	DI Leach	
880-22248-2	SS02	Soluble	Solid	DI Leach	
MB 880-41241/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41241/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41241/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 41276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-3	SS03	Soluble	Solid	300.0	40994
MB 880-40994/1-A	Method Blank	Soluble	Solid	300.0	40994
LCS 880-40994/2-A	Lab Control Sample	Soluble	Solid	300.0	40994
LCSD 880-40994/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	40994
880-22248-3 MS	SS03	Soluble	Solid	300.0	40994
880-22248-3 MSD	SS03	Soluble	Solid	300.0	40994

Analysis Batch: 41536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-22248-1	SS01	Soluble	Solid	300.0	41241
880-22248-2	SS02	Soluble	Solid	300.0	41241
MB 880-41241/1-A	Method Blank	Soluble	Solid	300.0	41241
LCS 880-41241/2-A	Lab Control Sample	Soluble	Solid	300.0	41241
LCSD 880-41241/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41241

Lab Chronicle

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Client Sample ID: SS01

Lab Sample ID: 880-22248-1
Matrix: Solid
Date Collected: 12/02/22 10:55
Date Received: 12/02/22 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			41765	MNR	EET MID	12/13/22 15:23
Total/NA	Analysis	8021B		1	41865	MNR	EET MID	12/15/22 23:03
Total/NA	Analysis	Total BTEX		1	42004	SM	EET MID	12/16/22 09:39
Total/NA	Analysis	8015 NM		1	41507	AJ	EET MID	12/09/22 20:41
Total/NA	Prep	8015NM Prep			41297	DM	EET MID	12/07/22 15:29
Total/NA	Analysis	8015B NM		1	41416	AJ	EET MID	12/09/22 17:38
Soluble	Leach	DI Leach			41241	KS	EET MID	12/07/22 10:02
Soluble	Analysis	300.0		1	41536	CH	EET MID	12/12/22 00:00

Client Sample ID: SS02

Lab Sample ID: 880-22248-2
Matrix: Solid
Date Collected: 12/02/22 11:00
Date Received: 12/02/22 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			41765	MNR	EET MID	12/13/22 15:23
Total/NA	Analysis	8021B		1	41865	MNR	EET MID	12/15/22 23:23
Total/NA	Analysis	Total BTEX		1	42004	SM	EET MID	12/16/22 09:39
Total/NA	Analysis	8015 NM		1	41507	AJ	EET MID	12/09/22 20:41
Total/NA	Prep	8015NM Prep			41297	DM	EET MID	12/07/22 15:29
Total/NA	Analysis	8015B NM		1	41416	AJ	EET MID	12/09/22 17:59
Soluble	Leach	DI Leach			41241	KS	EET MID	12/07/22 10:02
Soluble	Analysis	300.0		1	41536	CH	EET MID	12/12/22 00:06

Client Sample ID: SS03

Lab Sample ID: 880-22248-3
Matrix: Solid
Date Collected: 12/02/22 11:05
Date Received: 12/02/22 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			41765	MNR	EET MID	12/13/22 15:23
Total/NA	Analysis	8021B		1	41865	MNR	EET MID	12/15/22 23:44
Total/NA	Analysis	Total BTEX		1	42004	SM	EET MID	12/16/22 09:39
Total/NA	Analysis	8015 NM		1	41507	AJ	EET MID	12/09/22 20:41
Total/NA	Prep	8015NM Prep			41297	DM	EET MID	12/07/22 15:29
Total/NA	Analysis	8015B NM		1	41416	AJ	EET MID	12/09/22 18:19
Soluble	Leach	DI Leach			40994	SMC	EET MID	12/05/22 09:48
Soluble	Analysis	300.0		1	41276	CH	EET MID	12/09/22 11:30

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Redtail State Com 1H

Job ID: 880-22248-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-22248-1	SS01	Solid	12/02/22 10:55	12/02/22 13:44	0.5'
880-22248-2	SS02	Solid	12/02/22 11:00	12/02/22 13:44	0.5'
880-22248-3	SS03	Solid	12/02/22 11:05	12/02/22 13:44	0.5'

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eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: 22248

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland TX 79701
Phone:	303 517 8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Redtail State Com 1H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024121	Due Date:	
Project Location:	Lea County, NM	TAT starts the day received by the lab if received by 4 30pm	
Sampler's Name:	Conner Shore		
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	(Yes) No	
Samples Received Intact:	Yes No		Thermometer ID:	T_NM-007	
Cooler Custody Seals:	Yes No N/A		Correction Factor:		
Sample Custody Seals:	Yes No N/A		Temperature Reading:	24	
Total Containers:			Corrected Temperature:		

ANALYSIS REQUEST

880-22248 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA 300 0)	TPH (8015)	BTEX (8021	Sample Comments
SS01	S	12/2/2022	1055	0 5'	Grab	1		X	X	X	
SS02	S	12/2/2022	1100	0 5'	Grab	1		X	X	X	
SS03	S	12/2/2022	1105	0 5'	Grab	1		X	X	X	

12-2-22

Preservation Codes: H_2O Water; Me MeOH; HN HNO_3; Na NaOH; H_3PO_4 HP; $NaHSO_4$ NABIS; $Na_2S_2O_3$ $NaSO_3$; Zn Acetate+NaOH Zn; NaOH+Ascorbic Acid SAPC

Incident number
NAPP2233239048

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010** 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg 1631 / 245 1 / 7470 / 7471

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12.2.22 13:44	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Received by OCD: 5/1/2023 2:38:05 PM

Released to Imaging: 7/21/2023 2:39:28 PM

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-22248-1
SDG Number: Lea County NM

Login Number: 22248
List Number: 1
Creator: Kramer, Jessica

List Source: Eurofins Midland

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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Nobui, Jennifer, EMNRD; Bratcher, Michael, EMNRD
Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/09/2023)
Date: Thursday, January 5, 2023 10:53:23 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, January 4, 2023 5:12 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Hadlie Green <hgreen@ensolum.com>; Josh Adams <jadams@ensolum.com>
Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/09/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 9, 2023.

- Vast State 2H/ NAPP2231148750
- Redtail State Com 1H/ NAPP222233239048

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Nobui, Jennifer, EMNRD; Bratcher, Michael, EMNRD
Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/16/2023)
Date: Thursday, January 12, 2023 9:32:55 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Wednesday, January 11, 2023 5:27 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/16/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 16, 2023.

- Gold Coast 26 Federal 1 H/ NAPP2234636400
- Redtail State Com 1H/ NAPP222233239048

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Kalei Jennings
To: Josh Adams
Subject: FW: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)
Date: Thursday, January 19, 2023 10:23:05 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

Please file in appropriate project folders.

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, January 19, 2023 8:14 AM
To: Kalei Jennings <kjennings@ensolum.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Subject: RE: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)

[**EXTERNAL EMAIL**]

Kalei,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>

Sent: Wednesday, January 18, 2023 9:20 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] ConocoPhillips Company- Sampling Notification (Week of 01/23/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete final sampling activities at the following sites the week of January 23, 2023.

- Redtail State Com 1H/NAPP2233239048
- Wild Cobra/ NAPP2233946889
- Gold Coast/ NAPP2234636400

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Kalei Jennings
To: Hadlie Green
Subject: FW: COG - Extension Request - Redtail State Com 001H (Incident Number NAPP2233239048)
Date: Thursday, February 16, 2023 4:26:03 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png

Please save to folder.

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Beauvais, Charles R <Charles.R.Beauvais@conocophillips.com>
Sent: Thursday, February 16, 2023 4:26 PM
To: Kalei Jennings <kjennings@ensolum.com>
Subject: FW: COG - Extension Request - Redtail State Com 001H (Incident Number NAPP2233239048)

[**EXTERNAL EMAIL**]

FYI

From: Beauvais, Charles R
Sent: Thursday, February 16, 2023 3:25 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; EMNRD-OCD-District1spills <EMNRD-OCD-District1spills@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; CFO_Spill, BLM_NM <BLM_NM_CFO_Spill@blm.gov>
Cc: Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>; Esparza, Brittany <Brittany.Esparza@conocophillips.com>
Subject: COG - Extension Request - Redtail State Com 001H (Incident Number NAPP2233239048)

To Whom It May Concern,

Redtail State Com 001H (Incident Number NAPP2233239048)

COG Operating, LLC (COG) is requesting an extension for the current deadline of February 16, 2023, for submitting a remediation work plan or closure report required in 19.15.29.12.B.(1) NMAC for Redtail State Com 001H (Incident Number NAPP2233239048). The release was discovered on November 18, 2022. Initial site assessment activities have been completed and excavation activities are currently ongoing. In order to complete additional remediation activities and submit a

remediation work plan or closure report, COG requests a 90-day extension of this deadline until May 17, 2023.

Respectfully,

Charles R. Beauvais II
Senior Environmental Engineer | GHG Reporting & Systems | **ConocoPhillips**
Permian Business Unit | **L48 Environmental & SD**
(M) 575-988-2043
Charles.R.Beauvais@conocophillips.com

Our work is never so urgent or important that we cannot take the time to do it safely and in an environmentally responsible manner.

ENSOLUM

APPENDIX E

Final C-141

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	NAPP2233239048
District RP	
Facility ID	fAPP2203857122
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2233239048
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.3398 Longitude -103.6388
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Redtail State Com 001H	Site Type	Flowline
Date Release Discovered	November 18, 2022	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
A	02	23S	32E	Lea

Surface Owner: ■ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

■ Crude Oil	Volume Released (bbls) .41	Volume Recovered (bbls) 0
■ Produced Water	Volume Released (bbls) 40.59	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	■ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a hole in flowline due to corrosion.
The release was off the pad. A vacuum truck was dispatched to remove all freestanding fluids. Evaluation will be made at the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233239048
District RP	
Facility ID	fAPP2203857122
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Immediate notification was given by Jacqui Harris on November 19, 2022 at 11:37 am to ocd.enviro@state.nm.us.

Initial Response

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

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 11/28/2022

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Jocelyn Harimon Date: 11/28/2022

Released to Imaging: 7/21/2023 2:39:28 PM
Received by OCD: 5/1/2023 2:38:05 PM

Received by OCD: 11/28/2022 10:53:20 AM

Facility Name & Well Number(s):	REDTAIL STATE COM 1H					Release Discovery Date & Time:	11/18/202212:15:00 PM	NAPP2233239048	
Provide any known details about the event:	POLY LINE ON WATER PUMP DISCHARGE BURST								
	Recovered Volume (bbl.) (if available, not included in volume calculations)	Method of Determination (dropdown)	Release Type (dropdown):			> 1/2" of Rain in Last 24 Hours (dropdown):	% Rainwater Recovered (not included in volume calculations, informational):		
BU: Permian	Asset Area: DBE - Asset Avg.	0	Gauged volume	Oil Mixture		No	0%		
Known Volume (dropdown):		Release On/Off Pad	Percentage of Oil if Spilled Fluid is a Mixture (%.)	Known Volume of Spill (bbl.)		Total Estimated Volume of Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)		
Yes		Off-Pad	1%	41		0.41	40.59		

Released to Imaging: 11/28/2022 11:54:37 AM

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 161554

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 161554
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	11/28/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233239048
District RP	
Facility ID	fAPP2203857122
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233239048
District RP	
Facility ID	fAPP2203857122
Application ID	

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

Printed Name: __Jacob Laird_____ Title: __Environmental Engineer_____

Signature: Jacob Laird Date: _____05/01/2023_____

email: __Jacob.Laird@conocophillips.com_____ Telephone: ___575-703-5482_____

OCD Only

Received by: Jocelyn Harimon Date: 05/01/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2233239048
District RP	
Facility ID	fAPP2203857122
Application ID	

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jacob Laird Title: Environmental Engineer

Signature: Jacob Laird Date: 05/01/2023

email: Jacob.Laird@conocophillips.com Telephone: 575-703-5482

OCD Only

Received by: Jocelyn Harimon Date: 05/01/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Nelson Velez Date: 07/21/2023

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 212302

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 212302
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	7/21/2023