

July 18, 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 Stratojet 31 State Com 008H Incident Number NAPP2314235805 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 Stratojet 31 State Com 008H (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of produced water at the Site. 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 NAPP2314235805.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit M, Section 31, Township 20 South, Range 35 East, in Lea County, New Mexico (32.5249°, -103.5030°) and is associated with oil and gas exploration and production operations on private land managed by Merchant Livestock Company.

On April 19, 2023, internal corrosion on a check valve resulted in the release of approximately 0.22 barrels (bbls) of produced water into the surrounding pasture area. No released 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 May 22, 2023. The release was assigned Incident Number NAPP2314235805.

#### 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 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be between 51 feet and 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well

323148103295801, located approximately 0.7 miles north of the Site. The groundwater well has a reported depth to groundwater of 65.29 feet bgs and total depth of 85 feet bgs. Ground surface elevation at the groundwater well location is 3,713 feet above mean sea level (amsl), which is 29 feet lower in elevation than the site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 1,846 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet 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: 10,000 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 AND LABORATORY ANALYTICAL RESULTS

On May 22, 2023, Ensolum personnel were at the Site to evaluate the release 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 visible release extent at a depth of approximately 0.5 feet bgs to assess surficial soils within the release as well as the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach<sup>®</sup> chloride QuanTab<sup>®</sup> test strips. The release extent and assessment 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 as 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, 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 assessment soil samples SS01 through SS04, collected around the release extent, indicated all COC concentrations were compliant with most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for assessment soil samples SS05 through SS07, collected within the release extent, indicated chloride concentrations exceeded the Closure Criteria as well as reclamation requirement. Based on laboratory analytical results for soil samples SS05 through SS07, collected within the release extent, within the release extent, excavation activities appeared to be warranted.

#### **EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS**

Between June 23 and July 13, 2023, Ensolum personnel were at the Site to oversee excavation activities based on visible staining and laboratory analytical results for assessment soil samples SS05 through SS07. Excavation activities were performed via backhoe and transport vehicles. To direct excavation activities, soil was field screened for VOCs and chloride. The excavation was completed at a depth of 4 feet bgs. Photographic documentation of the excavation activities 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 FS10 were collected from the floor of the excavation at a depth of 4 feet bgs. Composite soil samples SW01 through SW04 were collected from the sidewalls of the excavation at depths ranging from ground surface to 4 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

Laboratory analytical results for excavation samples FS01 through FS10 and SW01 through SW04 indicated all COC concentrations were compliant with the Closure Criteria and the reclamation requirement. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation measured approximately 1,886 square feet in aerial extent. A total of approximately 280 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.

#### **CLOSURE REQUEST**

Site assessment and excavation activities were conducted at the Site to address the April 19, 2023, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Closure Criteria and the reclamation requirement. Based on the laboratory analytical results, no further remediation was required.

COG believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2314235805. NMOCD notifications are included in Appendix D and the Final C-141 is included in Appendix E.



If you have any questions or comments, please contact Ms. Hadlie Green at (432) 557-8895 or hgreen@ensolum.com.

Sincerely, Ensolum, LLC

Ronni Hayes Assistant Geologist

cc: Jacob Laird, ConocoPhillips Merchant Livestock Company

Daneil R. Moir, PG Senior Managing Geologist

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





FIGURES

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# TABLES

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▣	Ε	Ν	S	0	L	U	N

	TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Stratojet 31 State Com 008H COG Operating, LLC Lea County, New Mexico													
Sample Designation	Date	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	10,000				
				Asse	essment Soil San	nples	•							
SS01*	5/22/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	48.6				
SS02*	5/22/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	52.7				
SS03*	5/22/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	107				
SS04*	5/22/2023	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	551				
SS05*	5/22/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	15,400				
SS06*	5/22/2023	0.5	<0.00201	<0.00402	<50.0	51.5	<50.0	51.5	51.5	15,700				
SS07*	5/22/2023	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	11,100				
				Excava	ation Floor Soil S	amples								
FS01	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS02	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS03	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS04	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS05	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS06	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS07	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS08	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS09	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0				
FS10	07/13/2023	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0				

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Released t <del>o Imaging: 10</del>				SOIL SAMP Strat C Lea	TABLE 1 PLE ANALYTICA ojet 31 State Cor OG Operating, L I County, New Me	AL RESULTS n 008H LC exico		E	N S O	LUM
Sample Designation	Date	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 Tal	ele I Closure Criteria	(NMAC 19.15.29)	10	50	NE	NE	NE	1,000	2,500	10,000
				Excavat	ion Sidewall Soil	Samples				
SW01*	6/26/2023	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	331
SW02*	6/26/2023	0-4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	290
SW03*	6/26/2023	0-4	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	314
SW04*	6/23/2023	0-4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	446

#### Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.

Grey text represents samples that have been excavated

\* indicates sample was collected in area to be reclaimed after remediation is complete; reclamation standard in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH. 20000

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# APPENDIX A

Referenced Well Records



USGS Home Contact USGS Search USGS

### **National Water Information System: Web Interface**

IISGS Water Resources	Data Category:	Geographic Area:	
	Groundwater 🗸 🗸	United States	✓ GO

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# Search Results -- 1 sites found

site\_no list =

• 323148103295801

# Minimum number of levels = 1

Save file of selected sites to local disk for future upload

# USGS 323148103295801 20S.35E.31.12311

Available data for this site Groundwater: Field measurements V GO

Lea County, New Mexico Hydrologic Unit Code 13070007 Latitude 32°32'06", Longitude 103°30'03" NAD27 Land-surface elevation 3,729.00 feet above NGVD29 The depth of the well is 85 feet below land surface. This well is completed in the Other aquifers (N99990THER) national aquifer. This well is completed in the Ogallala Formation (1210GLL) local aquifer.

### **Output formats**

Table of data	
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Breaks in the plot represent a gap of at least one year between field measurements. Download a presentation-quality graph

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#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 323148103295801

**Minimum number of levels =** 1 <u>Save file of selected sites</u> to local disk for future upload

#### USGS 323148103295801 20S.35E.31.12311

Lea County, New Mexico Latitude 32°32'06", Longitude 103°30'03" NAD27 Land-surface elevation 3,729.00 feet above NGVD29 The depth of the well is 85 feet below land surface. This well is completed in the Other aquifers (N9999OTHER) national aquifer. This well is completed in the Ogallala Formation (1210GLL) local aquifer.

Output formats
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Tab-separated data
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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 ( measur(
1954-06-25		D	62610		3660.85	NGVD29	Р	Z		
1954-06-25		D	62611		3662.41	NAVD88	Р	Z		
1954-06-25		D	72019	68.15			Р	Z		
1961-03-08		D	62610		3662.62	NGVD29	Р	Z		
1961-03-08		D	62611		3664.18	NAVD88	Р	Z		
1961-03-08		D	72019	66.38			Р	Z		
1966-03-02		D	62610		3659.84	NGVD29	Р	Z		
1966-03-02		D	62611		3661.40	NAVD88	Р	Z		
1966-03-02		D	72019	69.16			Р	Z		
1968-04-17		D	62610		3661.43	NGVD29	Р	Z		
1968-04-17		D	62611		3662.99	NAVD88	Р	Z		
1968-04-17		D	72019	67.57			Р	Z		
1971-01-26		D	62610		3663.55	NGVD29	1	Z		
1971-01-26		D	62611		3665.11	NAVD88	1	Z		
1971-01-26		D	72019	65.45			1	Z		
1976-02-18		D	62610		3664.67	NGVD29	1	Z		

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1976-02-18		D	62611		3666.23	NAVD88	1	Z		
1976-02-18		D	72019	64.33			1	Z		
1981-02-18		D	62610		3664.97	NGVD29	1	Z		
1981-02-18		D	62611		3666.53	NAVD88	1	Z		
1981-02-18		D	72019	64.03			1	Z		
1986-04-09		D	62610		3664.07	NGVD29	1	Z		
1986-04-09		D	62611		3665.63	NAVD88	1	Z		
1986-04-09		D	72019	64.93			1	Z		
1991-07-03		D	62610		3662.96	NGVD29	1	Z		
1991-07-03		D	62611		3664.52	NAVD88	1	Z		
1991-07-03		D	72019	66.04			1	Z		
1996-02-02		D	62610		3663.71	NGVD29	1	S		
1996-02-02		D	62611		3665.27	NAVD88	1	S		
1996-02-02		D	72019	65.29			1	S		

		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
Status	Р	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	А	Approved for publication Processing and review completed.

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

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# WELL RECORD & LOG

# OFFICE OF THE STATE ENGINEER

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· .	20	90	70	Sand	Сүсм	
	90	105	15	Sand	CY CN	
	105	115	10	Sand & Gravel	CY ON	
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VEL	146	980	834	Red & Brown Shale	OY CN	
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				· · · · · · · · · · · · · · · · · · ·	$\frac{C^{1}C^{N}}{C^{N}}$	
				· · · · · · · · · · · · · · · · · · ·		
					$C^{1}C^{N}$	
	METHODI				$C^{1}C^{N}$	
	C AIR LIF	T C	BAILER C	OTHER - SPECIFY:	ELL YIELD (gpm):	30
z	WELL TES	T TEST STAR	RESULTS - ATT T TIME, END TI	ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLU ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER 1	DING DISCHARGE I THE TESTING PERIC	METHOD, D.
ISIO			CODMATION			
<b>RV</b>	0' to 1014	4' drilled v	vith mud.			
Ini	1014' to 1	1258' drille	ed with air and	d foam.		
RIGS	Went bac	:k in well (	on 07/21/16 &	07/22/16: Cleaned out & deepened. Installed 322' of 7" liner		
EST;	PRINT NA	MF(S) OF D	RILL RIG SUPE	RVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTR	UCTION OTHER TH	IAN LICENSEE
5. TI	i kiivi iwi	ne(b) or D				
· ·				·		
RE	THE UNDE CORRECT	RSIGNED H	HEREBY CERTII	FIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECO	THE FOREGOING IS ORD WITH THE STA	A TRUE AND TE ENGINEER
ATU	THE THE	<b>م</b> ر بالمحاط ،				
IGN.	1	h.	Jalo,	1 kin Klanna &	18/11	•
6. S	m	M 1	-un	privy orents 0	10/15	
<u> </u>	0	<ul> <li>SIGNAT</li> </ul>	URE OF DRILL	EK / PRINI SIGNEE NAME	DATE	
FOF	R OSE INTER	NAL USE		WR-20 WELL	RECORD & LOG (Ve	rsion 06/08/2012)
FIL	E NUMBER	Q.)	-1234	POD NUMBER TRN NUMBER	55317	<u>ති</u> ,
LO	CATION	20	S.JSE	.35.4.2.3 Comme	rcial	PAGE 2 OF 2

USGS Home Contact USGS Search USGS



**National Water Information System: Web Interface** 

USGS Water Resources

 Data Category:
 Geographic Area:

 Groundwater
 V
 New Mexico
 GO

Click to hideNews Bulletins

- Explore the NEW <u>USGS National Water Dashboard</u> interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News 🔝

Groundwater levels for New Mexico

Click to hide state-specific text

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

#### Search Results -- 1 sites found

Agency code = usgs site\_no list =

• 323022103285301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

#### USGS 323022103285301 21S.34E.04.311331

Lea County, New Mexico Latitude 32°30'50.1", Longitude 103°28'59.8" NAD83 Land-surface elevation 3,713 feet above NAVD88 The depth of the well is 125 feet below land surface. 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 measur
1981-03-11		D	62610		3625.09	NGVD29	1	Z		
1981-03-11		D	62611		3626.65	NAVD88	1	Z		
1981-03-11		D	72019	86.35			1	Z		
1986-03-21		D	62610		3622.97	NGVD29	1	Z		
1986-03-21		D	62611		3624.53	NAVD88	1	Z		
1986-03-21		D	72019	88.47			1	Z		
1991-05-01		D	62610		3621.34	NGVD29	1	Z		
1991-05-01		D	62611		3622.90	NAVD88	1	Z		
1991-05-01		D	72019	90.10			1	Z		
1996-03-13		D	62610		3620.30	NGVD29	1	S		
1996-03-13		D	62611		3621.86	NAVD88	1	S		
1996-03-13		D	72019	91.14			1	S		
2015-12-17	23:00 UTC	m	62610		3618.77	NGVD29	1	S	USGS	;
2015-12-17	23:00 UTC	m	62611		3620.33	NAVD88	1	S	USGS	;

#### Released to Imaging: 10/13/2023 2:57:56 PM

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#### Received by OCD: 7/20/2023 10:54:06 AM

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 measur
2015-12-17	23:00 UTC	m	72019	92.67			1		S USG	5

	Explanation									
Section	Code	Description								
Water-level date-time accuracy	D	Date is accurate to the Day								
Water-level date-time accuracy	m	Date is accurate to the Minute								
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	S	Steel-tape measurement.								
Method of measurement	Z	Other.								
Measuring agency		Not determined								
Measuring agency	USGS	U.S. Geological Survey								
Source of measurement		Not determined								
Source of measurement	S	Measured by personnel of reporting agency.								
Water-level approval status	А	Approved for publication Processing and review completed.								

Questions or Comments Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for New Mexico: Water Levels URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: <u>New Mexico Water Data Maintainer</u> Page Last Modified: 2023-07-13 13:10:12 EDT 0.29 0.25 nadww01 USA.gov



# APPENDIX B

Photographic Log





APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

Received by OCD: 7/20/2023 10:54:06 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 5/31/2023 9:51:53 AM

# JOB DESCRIPTION

Stratojet 31 State Com 8H SDG NUMBER 03D2024191

# **JOB NUMBER**

890-4709-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

# **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

AMER

Generated 5/31/2023 9:51:53 AM

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

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

SDG: 03D2024191

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Detection Limit (DoD/DOE)

Estimated Detection Limit (Dioxin)

Limit of Detection (DoD/DOE) Limit of Quantitation (DoD/DOE)

Method Detection Limit

Minimum Level (Dioxin) Most Probable Number

Method Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

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

Not Calculated

Negative / Absent

Positive / Present Practical Quantitation Limit

Presumptive

**Quality Control** 

Decision Level Concentration (Radiochemistry)

EPA recommended "Maximum Contaminant Level"

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

Minimum Detectable Activity (Radiochemistry) Minimum Detectable Concentration (Radiochemistry)

DL

DLC EDL

LOD

LOQ MCL

MDA

MDC MDL

ML

MPN MQL

NC

ND

NEG

POS

PQL PRES

QC

RER

RPD

TEF

TEQ

TNTC

RL

DL, RA, RE, IN

	Definitions/Glossary	
Client: Ensolu Project/Site: \$	um Stratojet 31 State Com 8H	Job ID: 890-4709-1 SDG: 03D2024191
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 VO	Α	
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	
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	

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

#### Job ID: 890-4709-1 SDG: 03D2024191

#### Job ID: 890-4709-1

#### Laboratory: Eurofins Carlsbad

#### Narrative

Job Narrative 890-4709-1

#### Receipt

The samples were received on 5/23/2023 8:34 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 0.8°C

#### **Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4709-1), SS02 (890-4709-2), SS03 (890-4709-3), SS04 (890-4709-4), SS05 (890-4709-5), SS06 (890-4709-6) and SS07 (890-4709-7).

#### GC VOA

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 880-54206 recovered outside control limits for the following analytes: Benzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (CCV 880-54206/11). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-54098 and 880-54102 and analytical batch 880-54206 was outside the upper control limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-54206 recovered above the upper control limit for Benzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-54206/6). 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.

#### GC Semi VOA

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-54064 and analytical batch 880-54024 was outside the upper control limits.

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-54080 and analytical batch 880-54026 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: SS03 (890-4709-3), SS04 (890-4709-4), SS05 (890-4709-5), SS06 (890-4709-6) and SS07 (890-4709-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

#### HPLC/IC

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-54056 and analytical batch 880-54097 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.

Job ID: 890-4709-1 SDG: 03D2024191

Matrix: Solid

Lab Sample ID: 890-4709-1

### **Client Sample ID: SS01**

Date Collected: 05/22/23 15:00 Date Received: 05/23/23 08:34

Sample Dept

Client: Ensolum

Г

00200         U           00200         U           00200         U           00401         U           00200         U           00401         U           00401         U		0.00200 0.00200 0.00200 0.00401 0.00200	mg/Kg mg/Kg mg/Kg		05/24/23 15:24	05/27/23 10:31	
00200 U 00200 U 00401 U 00200 U 00401 U		0.00200 0.00200 0.00401 0.00200	mg/Kg mg/Kg		05/24/23 15:24		
00200 U 00401 U 00200 U 00401 U		0.00200 0.00401 0.00200	mg/Kg			05/27/23 10:31	
00401 U 00200 U 00401 U		0.00401 0.00200			05/24/23 15:24	05/27/23 10:31	
00200 U 00401 U		0.00200	mg/Kg		05/24/23 15:24	05/27/23 10:31	
00401 U			mg/Kg		05/24/23 15:24	05/27/23 10:31	
		0.00401	mg/Kg		05/24/23 15:24	05/27/23 10:31	
covery Qu	ualifier	Limits			Prepared	Analyzed	Dil Fa
86		70 - 130			05/24/23 15:24	05/27/23 10:31	
108		70 - 130			05/24/23 15:24	05/27/23 10:31	1
X Calcula	ation						
Result Qu	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
00401 U		0.00401	mg/Kg			05/31/23 10:19	
Organics	s (DRO) (G	iC)					
Result Qı	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<49.9 U		49.9	mg/Kg			05/25/23 10:20	
Organic							
Result Qu	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<49.9 U		49.9	mg/Kg		05/24/23 12:15	05/25/23 05:33	
<49.9 U		49.9	mg/Kg		05/24/23 12:15	05/25/23 05:33	
<49.9 U		49.9	mg/Kg		05/24/23 12:15	05/25/23 05:33	
<49.9 U <49.9 U		49.9 49.9	mg/Kg mg/Kg		05/24/23 12:15 05/24/23 12:15	05/25/23 05:33 05/25/23 05:33	
<49.9 U <49.9 U :overy Qu	ualifier	49.9 49.9 <i>Limits</i>	mg/Kg mg/Kg		05/24/23 12:15 05/24/23 12:15 <i>Prepared</i>	05/25/23 05:33 05/25/23 05:33 Analyzed	Dil Fa
<49.9 U <49.9 U :overy Qu 107	ualifier	49.9 49.9 <u>Limits</u> 70 - 130	mg/Kg mg/Kg		05/24/23 12:15 05/24/23 12:15 <b>Prepared</b> 05/24/23 12:15	05/25/23 05:33 05/25/23 05:33 Analyzed 05/25/23 05:33	Dil Fa
<49.9 U <49.9 U :overy <u>Qu</u> 107 114	ualifier	49.9 49.9 <u>Limits</u> 70 - 130 70 - 130	mg/Kg mg/Kg		05/24/23 12:15 05/24/23 12:15 <b>Prepared</b> 05/24/23 12:15 05/24/23 12:15	05/25/23 05:33 05/25/23 05:33 <b>Analyzed</b> 05/25/23 05:33 05/25/23 05:33	Dil Fae
<49.9 U <49.9 U :overy <u>Qu</u> 107 114	ualifier	49.9 49.9 <u>Limits</u> 70 - 130 70 - 130	mg/Kg mg/Kg		05/24/23 12:15 05/24/23 12:15 <b>Prepared</b> 05/24/23 12:15 05/24/23 12:15	05/25/23 05:33 05/25/23 05:33 <b>Analyzed</b> 05/25/23 05:33 05/25/23 05:33	 
<49.9 U <49.9 U 20very Qu 107 114 Ography Result Qu	<i>ualifier</i> / - Soluble ualifier	49.9 49.9 <u>Limits</u> 70 - 130 70 - 130 RL	mg/Kg mg/Kg Unit	D	05/24/23 12:15 05/24/23 12:15 <b>Prepared</b> 05/24/23 12:15 05/24/23 12:15 Prepared	05/25/23 05:33 05/25/23 05:33 Analyzed 05/25/23 05:33 05/25/23 05:33	Dil Fa
<49.9 U <49.9 U 20very Qu 107 114 0graphy Result Qu 48.6	<i>ualifier</i> / - Soluble ualifier	49.9 49.9 <u>Limits</u> 70 - 130 70 - 130	mg/Kg mg/Kg Unit mg/Kg	D	05/24/23 12:15 05/24/23 12:15 <b>Prepared</b> 05/24/23 12:15 05/24/23 12:15 <b>Prepared</b>	05/25/23 05:33 05/25/23 05:33 <b>Analyzed</b> 05/25/23 05:33 05/25/23 05:33 <b>Analyzed</b> 05/25/23 13:24	Dil Fa
	Overy         Q           86         108           108         Q           Calcul         Q           Result         Q           Organics         Q           Result         Q           Value         Q           Organics         Q           Result         Q           <	Overy     Qualifier       86     108       108     Qualifier       00401     U       Organics (DRO) (G       Result     Qualifier       <49.9	OveryQuarterLimits $\overline{86}$ $\overline{70} - 130$ $108$ $\overline{70} - 130$ $\overline{108}$ $\overline{70} - 130$ Calculation $\overline{00401}$ QualifierRL $\overline{00401}$ $\overline{0}$ Organics (DRO) (GC)ResultQualifier $\overline{49.9}$ $\overline{0}$ Organics (DRO) (GC)ResultQualifier $\overline{49.9}$ $\overline{0}$ $\overline{49.9}$ $\overline{0}$ $\overline{49.9}$ $\overline{0}$ $\overline{49.9}$ $\overline{0}$ $\overline{49.9}$ $\overline{0}$ $\overline{49.9}$ $\overline{0}$	Overy         Qualifier         Limits           86         70 - 130           108         70 - 130           C Calculation         RL         Unit           00401         U         0.00401         mg/Kg           Organics (DRO) (GC)         RL         Unit           <49.9	OveryQualifierLimits $\overline{86}$ $\overline{70} - 130$ $108$ $\overline{70} - 130$ C CalculationQualifierRLUnitD $\overline{00401}$ $\overline{U}$ $\overline{0.00401}$ $\overline{mg/Kg}$ Organics (DRO) (GC)QualifierRLUnitD $\overline{<49.9}$ $\overline{U}$ $\overline{49.9}$ $\overline{mg/Kg}$ Organics (DRO) (GC)QualifierRLUnitD $\overline{<49.9}$ $\overline{U}$ $\overline{49.9}$ $\overline{mg/Kg}$	Overy B6Claimer TO - 130Links To - 130Prepared 05/24/23 15:2410870 - 130 $05/24/23 15:24$ C Calculation Result 00401 $U$ $D$ Prepared00401 $U$ $0.00401$ $mg/Kg$ $D$ PreparedOrganics (DRO) (GC) < 49.9	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

Sample Depth: 0.5'

Method: SW846 8021B - Volati	le Organic Comp	ounds (GC)						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/24/23 15:24	05/27/23 13:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		70 - 130			05/24/23 15:24	05/27/23 13:07	1

Eurofins Carlsbad

Released to Imaging: 10/13/2023 2:57:56 PM

5/31/2023

# **Client Sample Results**

Job ID: 890-4709-1 SDG: 03D2024191

Matrix: Solid

5

Lab Sample ID: 890-4709-2

# Client Sample ID: SS02

Date Collected: 05/22/23 14:30 Date Received: 05/23/23 08:34

Sample Depth: 0.5'

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1,4-Difluorobenzene (Surr)	96		70 - 130			05/24/23 15:24	05/27/23 13:07	
Method: TAL SOP Total BTEX - T	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/31/23 10:19	
Method: SW846 8015 NM - Diese	l Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Total TPH	<49.9	U	49.9	mg/Kg			05/25/23 11:47	
Mothod: SW846 8015B NM - Dies	sel Range Orga	nice (DRO)	(60)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline Range Organics	<49.9	U	49.9	mg/Kg		05/24/23 12:56	05/24/23 22:00	
(GRO)-C6-C10								
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg		05/24/23 12:56	05/24/23 22:00	
C10-C28)	10.0		40.0			0.510.4100.40.50		
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		05/24/23 12:56	05/24/23 22:00	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	127		70 - 130			05/24/23 12:56	05/24/23 22:00	
o-Terphenyl	100		70 - 130			05/24/23 12:56	05/24/23 22:00	
Method: EPA 300.0 - Anions. Ion	Chromatogram	hv - Solubl	e					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Chloride	52.7		5.00	mg/Kg			05/25/23 13:57	
						Lob Son		4700 (

Sample Depth: 0.5'

Method: SW846 8021B - Volatil	e Organic Comp	ounds (GC	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
Toluene	<0.00199	U	0.00199	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		05/24/23 15:24	05/27/23 13:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130			05/24/23 15:24	05/27/23 13:34	1
1,4-Difluorobenzene (Surr)	97		70 - 130			05/24/23 15:24	05/27/23 13:34	1
Method: TAL SOP Total BTEX	- Total BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			05/31/23 10:19	1
Method: SW846 8015 NM - Dies	sel Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			05/25/23 11:47	1

Eurofins Carlsbad

Job ID: 890-4709-1 SDG: 03D2024191

Matrix: Solid

Dil Fac

1

1

1

1

1

Dil Fac

Matrix: Solid

5

Lab Sample ID: 890-4709-3

Lab Sample ID: 890-4709-4

# Client Sample ID: SS03

Date Collected: 05/22/23 14:35 Date Received: 05/23/23 08:34

Sample Depth: 0.5'

Client: Ensolum

Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)	11	Dremered	Analymad
Analyte	Result	Quaimer	KL	Unit	 Prepared	Analyzed
Gasoline Range Organics	<49.9	U	49.9	mg/Kg	05/24/23 12:56	05/24/23 23:05
(GRO)-C6-C10						
Diesel Range Organics (Over	<49.9	U	49.9	mg/Kg	05/24/23 12:56	05/24/23 23:05
C10-C28)						
Oll Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg	05/24/23 12:56	05/24/23 23:05
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed
1-Chlorooctane	133	S1+	70 - 130		05/24/23 12:56	05/24/23 23:05
o-Terphenyl	105		70 - 130		05/24/23 12:56	05/24/23 23:05

#### Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result Qua	alifier RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	107	5.04	mg/Kg			05/25/23 14:02	1

#### **Client Sample ID: SS04**

Date Collected: 05/22/23 14:40

#### Date Received: 05/23/23 08:34

Sample Depth: 0.5'

Method: SW846 8021B - Volatile	<b>Organic Comp</b>	ounds (GC	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
Toluene	<0.00198	U	0.00198	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		05/24/23 15:24	05/27/23 14:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130			05/24/23 15:24	05/27/23 14:01	1
1,4-Difluorobenzene (Surr)	102		70 - 130			05/24/23 15:24	05/27/23 14:01	1
- Method: TAL SOP Total BTEX - T	otal BTEX Cal	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			05/31/23 10:19	1
- Method: SW846 8015 NM - Diese	I Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/25/23 11:47	1
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		05/24/23 12:56	05/24/23 23:26	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		05/24/23 12:56	05/24/23 23:26	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/24/23 12:56	05/24/23 23:26	1

		Client	Sample Re	sults				
Client: Ensolum Project/Site: Stratojet 31 State Cor	n 8H						Job ID: 890 SDG: 03D2	-4709-1 2024191
Client Sample ID: SS04 Date Collected: 05/22/23 14:40 Date Received: 05/23/23 08:34 Sample Depth: 0.5'						Lab Sar	nple ID: 890- Matri	<b>4709-4</b> x: Solid
Method: EPA 300.0 - Anions, Ior Analyte	n Chromatograp Result	o <mark>hy - Soluble</mark> Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	551		5.02	mg/Kg			05/25/23 14:07	1
Client Sample ID: SS05 Date Collected: 05/22/23 14:45 Date Received: 05/23/23 08:34 Sample Depth: 0.5'						Lab Sar	nple ID: 890- Matri	<b>4709-5</b> x: Solid
Method: SW846 8021B - Volatile Analyte	Organic Comp Result	<mark>ounds (GC)</mark> Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		05/24/23 15:24	05/27/23 15:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130			05/24/23 15:24	05/27/23 15:47	1
1,4-Difluorobenzene (Surr)	91		70 - 130			05/24/23 15:24	05/27/23 15:47	1
Method: TAL SOP Total BTEX -	Total BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			05/31/23 10:19	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (G	C)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			05/25/23 11:47	1
Method: SW846 8015B NM - Die	sel Range Orga	nics (DRO) (	GC)	Unit	P	Propared	Applyzod	Dil Eac
			<b>FO O</b>			05/24/23 12:56	05/24/23 23:48	1
(GRO)-C6-C10	<50.0	0	50.0	ing/rtg		05/24/23 12:30	05/24/23 23.40	1
Diesei Range Organics (Over	<50.0	0	50.0	mg/Kg		05/24/23 12:56	05/24/23 23:48	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/24/23 12:56	05/24/23 23:48	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	132	S1+	70 - 130			05/24/23 12:56	05/24/23 23:48	1
o-Terphenyl	104		70 - 130			05/24/23 12:56	05/24/23 23:48	1
Method: EPA 300.0 - Anions, lor	n Chromatograp	ohy - Soluble						
<b>Analyte</b>	Result	Qualifier	RL	Unit	D	Prepared	<b>Analyzed</b>	Dil Fac

AnalyteResultQualifierRLUnitDPreparedAnalyzedDil FacChloride15400100100mg/Kg05/25/23 14:1320

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Job ID: 890-4709-1 SDG: 03D2024191

Matrix: Solid

Lab Sample ID: 890-4709-6

# **Client Sample ID: SS06**

Date Collected: 05/22/23 14:50 Date Received: 05/23/23 08:34

Sample Depth: 0.5'

Client: Ensolum

Method: SW846 8021B - Volatile	Organic Comp	ounds (GC	)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fa
Benzene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:14	
Toluene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:14	
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:14	
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		05/24/23 15:24	05/27/23 16:14	
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:14	
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/24/23 15:24	05/27/23 16:14	
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	94		70 - 130			05/24/23 15:24	05/27/23 16:14	1
1,4-Difluorobenzene (Surr)	101		70 - 130			05/24/23 15:24	05/27/23 16:14	1
Method: TAL SOP Total BTEX - To	otal BTEX Calo	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/31/23 10:19	1
Method: SW846 8015 NM - Diese	Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	51.5		50.0	mg/Kg			05/25/23 11:47	1
Method: SW846 8015B NM - Dies	el Range Orga	nics (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		05/24/23 12:56	05/25/23 00:09	1
Diesel Range Organics (Over	51.5		50.0	mg/Kg		05/24/23 12:56	05/25/23 00:09	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		05/24/23 12:56	05/25/23 00:09	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fa
1-Chlorooctane	133	S1+	70 - 130			05/24/23 12:56	05/25/23 00:09	1
o-Terphenyl	105		70 - 130			05/24/23 12:56	05/25/23 00:09	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubi	le					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15700		99.4	mg/Kg			05/25/23 14:18	20
lient Sample ID: SS07						Lab Sar	nple ID: 890-	4709-7
-							Matei	x: Solic
ate Collected: 05/22/23 14:55							watri	
ate Collected: 05/22/23 14:55 ate Received: 05/23/23 08:34							watri	

Method: SW846 8021B - Volat	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		05/24/23 15:24	05/27/23 16:41	1				
Toluene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:41	1				
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:41	1				
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		05/24/23 15:24	05/27/23 16:41	1				
o-Xylene	<0.00201	U	0.00201	mg/Kg		05/24/23 15:24	05/27/23 16:41	1				
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		05/24/23 15:24	05/27/23 16:41	1				
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac				
4-Bromofluorobenzene (Surr)	86		70 - 130			05/24/23 15:24	05/27/23 16:41	1				

Eurofins Carlsbad

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5/31/2023
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# **Client Sample Results**

Job ID: 890-4709-1 SDG: 03D2024191

Matrix: Solid

Lab Sample ID: 890-4709-7

### Client Sample ID: SS07

Date Collected: 05/22/23 14:55 Date Received: 05/23/23 08:34

Sample Depth: 0.5'

Client: Ensolum

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	99		70 - 130			05/24/23 15:24	05/27/23 16:41	1
Method: TAL SOP Total BTEX - 1	Total BTEX Cald	culation						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			05/31/23 10:19	1
Method: SW846 8015 NM - Diese	el Range Organ	ics (DRO) (	GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			05/25/23 11:47	1
- Method: SW846 8015B NM - Dies	sel Range Orga	nics (DRO)	(GC)					
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		05/24/23 12:56	05/25/23 00:31	1
Diesel Range Organics (Over	<49.8	U	49.8	mg/Kg		05/24/23 12:56	05/25/23 00:31	1
Oll Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		05/24/23 12:56	05/25/23 00:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane		S1+	70 - 130			05/24/23 12:56	05/25/23 00:31	1
o-Terphenyl	105		70 - 130			05/24/23 12:56	05/25/23 00:31	1
Method: EPA 300.0 - Anions, Ion	Chromatograp	ohy - Solubl	e					
	• •				-	- ·		
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

5

Client: Ensolum

#### Job ID: 890-4709-1 SDG: 03D2024191

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: Stratojet 31 State Com 8H

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

				Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
890-4707-A-21-C MS	Matrix Spike	84	105		
890-4707-A-21-D MSD	Matrix Spike Duplicate	85	98		
890-4709-1	SS01	86	108		- 5
890-4709-2	SS02	87	96		
890-4709-3	SS03	93	97		
890-4709-4	SS04	94	102		
890-4709-5	SS05	85	91		
890-4709-6	SS06	94	101		
890-4709-7	SS07	86	99		
LCS 880-54098/1-A	Lab Control Sample	80	118		
LCSD 880-54098/2-A	Lab Control Sample Dup	81	107		
MB 880-54098/5-A	Method Blank	53 S1-	100		
MB 880-54102/5-A	Method Blank	51 S1-	98		
Surrogate Legend	(2)				
BFB = 4-Bromofluorober	nzene (Surr)				- 2
DFBZ = 1,4-Difluorobenz	zene (Surr)				

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

Percent Surrogate Recovery (Acceptance Limits) 1CO1 OTPH1 **Client Sample ID** (70-130) (70-130) Lab Sample ID 890-4709-1 SS01 107 114 890-4709-2 SS02 127 100 SS02 890-4709-2 MS 118 85 890-4709-2 MSD SS02 121 87 890-4709-3 SS03 133 S1+ 105 890-4709-4 SS04 134 S1+ 105 SS05 890-4709-5 132 S1+ 104 890-4709-6 SS06 133 S1+ 105 890-4709-7 SS07 133 S1+ 105 890-4711-A-1-E MS Matrix Spike 105 100 890-4711-A-1-F MSD Matrix Spike Duplicate 113 107 LCS 880-54064/2-A Lab Control Sample 86 82 LCS 880-54080/2-A Lab Control Sample 103 79 LCSD 880-54064/3-A Lab Control Sample Dup 86 84 LCSD 880-54080/3-A 79 Lab Control Sample Dup 103 MB 880-54064/1-A Method Blank 169 S1+ 181 S1+ MB 880-54080/1-A Method Blank 170 S1+ 138 S1+

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

### **QC Sample Results**

Lab Sample ID: MB 880-54098/5-A

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

Matrix: Solid							Prep Type: 1	otal/NA
Analysis Batch: 54206							Prep Batch	1: <mark>5409</mark> 8
	MB	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/24/23 15:24	05/27/23 07:23	1
	МВ	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	53	S1-	70 - 130			05/24/23 15:24	05/27/23 07:23	1
1,4-Difluorobenzene (Surr)	100		70 - 130			05/24/23 15:24	05/27/23 07:23	1
• · · · · · · · · · · · · · · · · · · ·								

#### Lab Sample ID: LCS 880-54098/1-A Matrix: Solid

#### Analysis Batch: 54206

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1225		mg/Kg		123	70 - 130	
Toluene	0.100	0.1063		mg/Kg		106	70 - 130	
Ethylbenzene	0.100	0.1001		mg/Kg		100	70 - 130	
m-Xylene & p-Xylene	0.200	0.1944		mg/Kg		97	70 - 130	
o-Xylene	0.100	0.09737		mg/Kg		97	70 - 130	

	LCS LCS					
Surrogate	%Recovery	Qualifier	Limits			
4-Bromofluorobenzene (Surr)	80		70 - 130			
1,4-Difluorobenzene (Surr)	118		70 - 130			

#### Lab Sample ID: LCSD 880-54098/2-A

#### Matrix: Solid

						Prep	Batch:	54098
Spike	LCSD	LCSD				%Rec		RPD
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
0.100	0.1289		mg/Kg		129	70 - 130	5	35
0.100	0.1105		mg/Kg		110	70 - 130	4	35
0.100	0.1071		mg/Kg		107	70 - 130	7	35
0.200	0.2100		mg/Kg		105	70 - 130	8	35
0.100	0.1070		mg/Kg		107	70 - 130	9	35
	Spike Added 0.100 0.100 0.100 0.200 0.100	Spike         LCSD           Added         Result           0.100         0.1289           0.100         0.1105           0.100         0.1071           0.200         0.2100           0.100         0.1070	Spike         LCSD         LCSD           Added         Result         Qualifier           0.100         0.1289	Spike         LCSD         LCSD           Added         Result         Qualifier         Unit           0.100         0.1289         mg/Kg           0.100         0.1105         mg/Kg           0.100         0.1071         mg/Kg           0.200         0.2100         mg/Kg           0.100         0.1070         mg/Kg	Spike         LCSD         LCSD           Added         Result         Qualifier         Unit         D           0.100         0.1289         mg/Kg         D           0.100         0.1105         mg/Kg         D           0.100         0.1071         mg/Kg         D           0.200         0.2100         mg/Kg         Mg/Kg           0.100         0.1070         mg/Kg         D	Spike         LCSD         LCSD           Added         Result         Qualifier         Unit         D         %Rec           0.100         0.1289         mg/Kg         129         129           0.100         0.1105         mg/Kg         110           0.100         0.1071         mg/Kg         107           0.200         0.2100         mg/Kg         105           0.100         0.1070         mg/Kg         107	Spike         LCSD         LCSD         %Rec           Added         Result         Qualifier         Unit         D         %Rec         Limits           0.100         0.1289         mg/Kg         129         70 - 130           0.100         0.1105         mg/Kg         110         70 - 130           0.100         0.1071         mg/Kg         107         70 - 130           0.200         0.2100         mg/Kg         105         70 - 130           0.100         0.1070         mg/Kg         107         70 - 130	Spike         LCSD         Unit         D         %Rec           Added         Result         Qualifier         Unit         D         %Rec         Limits         RPD           0.100         0.1289         mg/Kg         110         70 - 130         5           0.100         0.1105         mg/Kg         107         70 - 130         4           0.100         0.1071         mg/Kg         107         70 - 130         7           0.200         0.2100         mg/Kg         105         70 - 130         8           0.100         0.1070         mg/Kg         107         70 - 130         9

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		70 - 130
1,4-Difluorobenzene (Surr)	107		70 - 130

### Lab Sample ID: 890-4707-A-21-C MS

# Matrix: Solid

Analysis Batch: 54206									Prep	) Batch: 54098
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	< 0.00199	U	0.0998	0.1210		mg/Kg		121	70 - 130	
Toluene	<0.00199	U	0.0998	0.1091		mg/Kg		109	70 - 130	

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Prep Type: Total/NA

**Client Sample ID: Matrix Spike** 

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 54098

3

#### Released to Imaging: 10/13/2023 2:57:56 PM

5/31/2023
MS MS

0.1058

0.2034

0.1001

**Result Qualifier** 

Unit

mg/Kg

mg/Kg

mg/Kg

Spike

Added

0.0998

0.200

0.0998

Limits 70 - 130

70 - 130

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

Lab Sample ID: 890-4707-A-21-C MS

Matrix: Solid

Analyte

o-Xylene

Surrogate

Ethylbenzene

m-Xylene & p-Xylene

Analysis Batch: 54206

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

Sample Sample

<0.00199

<0.00398 U

<0.00199 U

%Recovery

**Result Qualifier** 

U

MS MS

84

105

Qualifier

# **Client Sample ID: Matrix Spike** Prep Type: Total/NA Prep Batch: 54098 7

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

%Rec

Limits

70 - 130

70 - 130

70 - 130

%Rec

106

102

100

D

Matrix: Solid = .....

Lab Sample ID: 890-4707-A-21-D MSD

Analysis Batch: 54206									Prep	Batch:	54098
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00199	U	0.100	0.1191		mg/Kg		119	70 - 130	2	35
Toluene	<0.00199	U	0.100	0.1091		mg/Kg		109	70 - 130	0	35
Ethylbenzene	<0.00199	U	0.100	0.1025		mg/Kg		102	70 - 130	3	35
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1976		mg/Kg		98	70 - 130	3	35
o-Xylene	<0.00199	U	0.100	0.09868		mg/Kg		98	70 _ 130	1	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

#### Lab Sample ID: MB 880-54102/5-A Matrix: Solid Analysis Batch: 54206

#### **Client Sample ID: Method Blank** Prep Type: Total/NA Prep Batch: 54102

	МВ	МВ						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
Toluene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		05/24/23 15:59	05/26/23 17:47	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	51	S1-	70 - 130			05/24/23 15:59	05/26/23 17:47	1
1,4-Difluorobenzene (Surr)	98		70 - 130			05/24/23 15:59	05/26/23 17:47	1

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

Lab Sample ID: MB 880-54064/1-A Matrix: Solid						Client Sa	mple ID: Metho Prep Type: 1	d Blank ſotal/NA
Analysis Batch: 54024							Prep Batch	n: <b>54064</b>
	MB	MB						
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<50.0	U	50.0	mg/Kg		05/24/23 12:15	05/24/23 20:53	1
(GRO)-C6-C10								

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Lab Sample ID: MB 880-54064/1-A

Matrix: Solid

Analyte

C10-C28)

Surrogate 1-Chlorooctane o-Terphenyl

Matrix: Solid

Analyte

C10-C28)

Analysis Batch: 54024

Gasoline Range Organics (GRO)-C6-C10

Diesel Range Organics (Over

Analysis Batch: 54024

Diesel Range Organics (Over

Oll Range Organics (Over C28-C36)

Lab Sample ID: LCS 880-54064/2-A

### Method: 8015B NM - Diesel Range

										SDG: 03	90-470 D2024	191	
ge Or	gar	nics (DR	(C) (GC) (C	ontinue	ed)								
									Client S	ample ID: Meti Prep Type Prep Bat	hod Bl : Total	ank I/NA	
	ΜВ	МВ								Перва			5
Re	esult	Qualifier	R	L	Unit		D	Р	repared	Analyzed	Di	l Fac	
<	50.0	U	50.	.0	mg/K	g	_	05/2	4/23 12:15	05/24/23 20:53	3	1	
<	50.0	U	50.	.0	mg/K	g		05/2	4/23 12:15	05/24/23 20:53	3	1	7
	MB	МВ											
%Reco	very	Qualifier	Limits					P	repared	Analyzed	Di	l Fac	8
	169	S1+	70 - 130					05/2	4/23 12:15	05/24/23 20:53	3	1	
	181	S1+	70 - 130					05/2	4/23 12:15	05/24/23 20:53	3	1	9
							С	lient	Sample	ID: Lab Contr	ol San	nple	
										Prep Type	: Tota	I/NA	
										Prep Bat	ch: 54	064	
			Spike	LCS	LCS					%Rec			
			Added	Result	Qualifier	Unit		D	%Rec	Limits			
			1000	973.2		mg/Kg			97	70 - 130			
			1000	984.0		mg/Kg			98	70 - 130			13
LCS	LCS												
covery	Qua	lifier	Limits										
86			70 - 130										
82			70 - 130										
						CI	ient	Sam	ple ID: L	ab Control Sa	mple	Dup	
										Prep Type Prep Bat	: Tota	/NA 1064	
			Spike	LCSD	LCSD					%Rec		RPD	
			Added	Result	Qualifier	Unit		D	%Rec	Limits R	PD	Limit	
			1000	059.6						70 120		20	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	82		70 - 130

Lab Sample ID: LCSD 880-54064/3-A Matrix: Solid Analysis Batch: 54024				Client	t Sam	nple ID:	Lab Contro Prep 1 Prep	I Sampl ype: To Batch:	e Dup tal/NA 54064
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	1000	958.6		mg/Kg		96	70 - 130	2	20
(GRO)-C6-C10									
Diesel Range Organics (Over	1000	1005		mg/Kg		100	70 - 130	2	20
C10-C28)									

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

Lab Sample ID: 890-4711-A-1-E MS	
Matrix: Solid	
Analysis Batch: 54024	

Analysis Batch: 54024									Prep	Batch: 54064
	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	970.9		mg/Kg		95	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.8	U	999	934.2		mg/Kg		91	70 - 130	

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	100		70 - 130

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**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

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Lab ID: 000 4700 4

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

Lab Sample ID: 890-4711-A-1-F	F MSD									Clie	nt Sa	ample ID:	Matrix Sp	ike Dup	olicate
Matrix: Solid													Prep T	ype: To	tal/NA
Analysis Batch: 54024													Prep	Batch:	54064
	Sample	Sam	ple	Spike		MSD	MSD						%Rec		RPD
Analyte	Result	Qua	lifier	Added		Result	Qualifie	ər	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics	<49.8	U		997		1025			mg/Kg		_	100	70 - 130	5	20
(GRO)-C6-C10															
Diesel Range Organics (Over	<49.8	U		997		1015			mg/Kg			99	70 - 130	8	20
C10-C28)															
	MSD	MSE	)												
Surrogate	%Recoverv	Qua	lifier	Limits											
1-Chlorooctane	113			70 - 130											
o-Terphenyl	107			70 - 130											
Leh Comple ID: MD 990 54090	(A A											Oliont C		lethed.	Diank
	/1-A											Client Sa	ample ID: I	netnoa T	Diarik
Matrix: Solid													Prep	ype: Io	
Analysis Batch: 54026													Prep	Batch:	54080
	_	мв	мв							_	_				
Analyte	R	esult	Qualifier		RL		Ur	nit		D	P	repared	Analyze	ed	Dil Fac
Gasoline Range Organics	<	\$50.0	U	5	50.0		m	g/Kg			05/2	4/23 12:56	05/24/23 2	20:56	1
(GRU)-C6-C10 Diosol Range Organics (Over		50.0		F	50.0		m	alka			05/2	1/23 12.56	05/24/23 2	0.56	1
C10-C28)		50.0	0	ŭ	50.0		119	y/ry			05/2	4/23 12.30	03/24/23 2	0.50	1
Oll Range Organics (Over C28-C36)	<	\$50.0	U	5	50.0		m	a/Ka			05/2	4/23 12:56	05/24/23 2	0:56	1
······································			-	-			,	3, 3							-
		MB	МВ												
Surrogate	%Reco	very	Qualifier	Limits	5						P	repared	Analyz	ed	Dil Fac
1-Chlorooctane		170	S1+	70 - 13	30						05/2	4/23 12:56	05/24/23 2	20:56	1
o-Terphenyl		138	S1+	70 - 13	30						05/2	4/23 12:56	05/24/23 2	20:56	1
- Lab Sample ID: LCS 880-5408(	0/2-A									С	lient	Sample	ID: Lab Co	ntrol S	ample
Matrix: Solid													Pren T	vne: To	tal/NA
Analysis Batch: 54026													Pren	Batch	54080
Analysis Baten. 04020				Spike		LCS	LCS						%Rec	Baten.	04000
Analyte				Added		Result	Qualifie	۶r	Unit		п	%Rec	Limits		
Gasoline Range Organics				1000		916.4			ma/Ka		_	92	70 130		
(GRO)-C6-C10				1000		010.1			ing/itg			02	101100		
Diesel Range Organics (Over				1000		954.6			mg/Kg			95	70 - 130		
C10-C28)															
	1.05	100													
Surrogato	% Pocovory	000	lifior	Limite											
	103	Qua		70 130											
	70			70 130											
-	79			70 - 730											
Lab Sample ID: LCSD 880-540	80/3-A								Cli	ent	Sam	ple ID: L	ab Contro	Samp	e Dup
Matrix: Solid													Prep T	ype: To	tal/NA
Analysis Batch: 54026													Prep	Batch:	54080
				Spike		LCSD	LCSD						%Rec		RPD
Analyte				Added		Result	Qualifie	ər	Unit		D	%Rec	Limits	RPD	Limit
Gasoline Range Organics				1000		853.2			mg/Kg		_	85	70 - 130	7	20
(GRO)-C6-C10									<i>u</i> -					_	
Diesel Range Organics (Over				1000		878.9			mg/Kg			88	70 - 130	8	20
C10-C28)															

Job ID: 890-4709-1 SDG: 03D2024191

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

Job ID: 890-4709-1 SDG: 03D2024191	
Control Sample Dup Prep Type: Total/NA Prep Batch: 54080	
	5
nt Sample ID: SS02	7
Prep Type: Total/NA Prep Batch: 54080	8
ec its	9
130	
130	
	13

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Lab Sample ID: LCSD 880-54	b Sample ID: LCSD 880-54080/3-A				Client Sample ID: Lab Control Sample Dup						e Dup
Matrix: Solid									Prep T	ype: To	tal/NA
Analysis Batch: 54026									Prep	Batch:	54080
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	103		70 - 130								
o-Terphenyl	79		70 - 130								
L ab Sample ID: 890-4709-2 M	s								Client Sar	nole ID:	SS02
Matrix: Solid	-								Prep T	vpe: To	tal/NA
Analysis Batch: 54026									Prep	Batch:	54080
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	<49.9	U	996	876.3		mg/Kg		88	70 - 130		
Diesel Range Organics (Over	<49.9	U	996	788.5		mg/Kg		79	70 - 130		
C10-C28)						0 0					
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	118		70 - 130								
o-Terphenyl	85		70 - 130								
Lab Sample ID: 890-4709-2 M	SD								Client Sar	nple ID:	SS02
Matrix: Solid									Prep T	ype: To	tal/NA
Analysis Batch: 54026									Prep	Batch:	54080
	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	888.8		mg/Kg		89	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	996	815.5		mg/Kg		82	70 - 130	3	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	121		70 - 130								
o-Terphenyl	87		70 - 130								
Method: 300.0 - Anions, Io	on Chromat	ography									
Lab Sample ID: MB 880-54050	6/1-A							Client S	Sample ID:	Method	Blank
Matrix: Solid									Prep	Type: S	oluble

Analysis Batch: 54097										
	MB	MB								
Analyte	Result	Qualifier		RL	Unit		D F	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U		5.00	mg/K	g			05/25/23 12:17	1
 Lab Sample ID: LCS 880-54056/2-A							Clien	t Sample	e ID: Lab Contro	I Sample
Matrix: Solid									Prep Type	: Soluble
Analysis Batch: 54097										
			Spike	LCS	LCS				%Rec	
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride			250	258.5		mg/Kg		103	90 - 110	

Job ID: 890-4709-1 SDG: 03D2024191

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### Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-54056/3-A Matrix: Solid Analysis Batch: 54097						Clie	Client Sample ID: Lab Control Sample Dup Prep Type: Solubl				e Dup oluble
····· <b>·</b>			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	257.5		mg/Kg		103	90 - 110	0	20
Lab Sample ID: 890-4709-7 MS									Client Sa	mple ID:	SS07
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 54097											
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	11100	F1	4950	17090	F1	mg/Kg		121	90 - 110		
Lab Sample ID: 890-4709-7 MSD									Client Sa	mple ID:	SS07
Matrix: Solid									Prep	Type: S	oluble
Analysis Batch: 54097											
-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	11100	F1	4950	16850	F1	mg/Kg		116	90 - 110	1	20

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#### Job ID: 890-4709-1 SDG: 03D2024191

GC VOA

#### Prep Batch: 54098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	5035	
890-4709-2	SS02	Total/NA	Solid	5035	
890-4709-3	SS03	Total/NA	Solid	5035	
890-4709-4	SS04	Total/NA	Solid	5035	
890-4709-5	SS05	Total/NA	Solid	5035	
890-4709-6	SS06	Total/NA	Solid	5035	
890-4709-7	SS07	Total/NA	Solid	5035	
MB 880-54098/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-54098/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-54098/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4707-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	
890-4707-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Prep Batch: 54102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-54102/5-A	Method Blank	Total/NA	Solid	5035	

#### Analysis Batch: 54206

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	8021B	54098
890-4709-2	SS02	Total/NA	Solid	8021B	54098
890-4709-3	SS03	Total/NA	Solid	8021B	54098
890-4709-4	SS04	Total/NA	Solid	8021B	54098
890-4709-5	SS05	Total/NA	Solid	8021B	54098
890-4709-6	SS06	Total/NA	Solid	8021B	54098
890-4709-7	SS07	Total/NA	Solid	8021B	54098
MB 880-54098/5-A	Method Blank	Total/NA	Solid	8021B	54098
MB 880-54102/5-A	Method Blank	Total/NA	Solid	8021B	54102
LCS 880-54098/1-A	Lab Control Sample	Total/NA	Solid	8021B	54098
LCSD 880-54098/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	54098
890-4707-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	54098
890-4707-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	54098

#### Analysis Batch: 54478

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	Total BTEX	
890-4709-2	SS02	Total/NA	Solid	Total BTEX	
890-4709-3	SS03	Total/NA	Solid	Total BTEX	
890-4709-4	SS04	Total/NA	Solid	Total BTEX	
890-4709-5	SS05	Total/NA	Solid	Total BTEX	
890-4709-6	SS06	Total/NA	Solid	Total BTEX	
890-4709-7	SS07	Total/NA	Solid	Total BTEX	

#### GC Semi VOA

#### Analysis Batch: 54024

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	8015B NM	54064
MB 880-54064/1-A	Method Blank	Total/NA	Solid	8015B NM	54064
LCS 880-54064/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	54064
LCSD 880-54064/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	54064

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## GC Semi VOA (Continued)

#### Analysis Batch: 54024 (Continued)

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4711-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	54064
890-4711-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	54064

#### Analysis Batch: 54026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
890-4709-2	SS02	Total/NA	Solid	8015B NM	54080	
890-4709-3	SS03	Total/NA	Solid	8015B NM	54080	_
890-4709-4	SS04	Total/NA	Solid	8015B NM	54080	8
890-4709-5	SS05	Total/NA	Solid	8015B NM	54080	
890-4709-6	SS06	Total/NA	Solid	8015B NM	54080	9
890-4709-7	SS07	Total/NA	Solid	8015B NM	54080	
MB 880-54080/1-A	Method Blank	Total/NA	Solid	8015B NM	54080	
LCS 880-54080/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	54080	
LCSD 880-54080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	54080	
890-4709-2 MS	SS02	Total/NA	Solid	8015B NM	54080	
890-4709-2 MSD	SS02	Total/NA	Solid	8015B NM	54080	
Prep Batch: 54064						
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	13
890-4709-1	SS01	Total/NA	Solid	8015NM Prep		
		<b>T</b> / 1010	0.111	00/510/5		

#### Prep Batch: 54064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-54064/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-54064/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-54064/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4711-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4711-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

#### Prep Batch: 54080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4709-2	SS02	Total/NA	Solid	8015NM Prep	
890-4709-3	SS03	Total/NA	Solid	8015NM Prep	
890-4709-4	SS04	Total/NA	Solid	8015NM Prep	
890-4709-5	SS05	Total/NA	Solid	8015NM Prep	
890-4709-6	SS06	Total/NA	Solid	8015NM Prep	
890-4709-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-54080/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-54080/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-54080/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4709-2 MS	SS02	Total/NA	Solid	8015NM Prep	
890-4709-2 MSD	SS02	Total/NA	Solid	8015NM Prep	

#### Analysis Batch: 54159

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4709-1	SS01	Total/NA	Solid	8015 NM	
890-4709-2	SS02	Total/NA	Solid	8015 NM	
890-4709-3	SS03	Total/NA	Solid	8015 NM	
890-4709-4	SS04	Total/NA	Solid	8015 NM	
890-4709-5	SS05	Total/NA	Solid	8015 NM	
890-4709-6	SS06	Total/NA	Solid	8015 NM	
890-4709-7	SS07	Total/NA	Solid	8015 NM	

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Job ID: 890-4709-1 SDG: 03D2024191

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

#### Job ID: 890-4709-1 SDG: 03D2024191

HPLC/IC

#### Leach Batch: 54056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4709-1	SS01	Soluble	Solid	DI Leach	
890-4709-2	SS02	Soluble	Solid	DI Leach	
890-4709-3	SS03	Soluble	Solid	DI Leach	
890-4709-4	SS04	Soluble	Solid	DI Leach	
890-4709-5	SS05	Soluble	Solid	DI Leach	
890-4709-6	SS06	Soluble	Solid	DI Leach	
890-4709-7	SS07	Soluble	Solid	DI Leach	
MB 880-54056/1-A	Method Blank	Soluble	Solid	DI Leach	8
LCS 880-54056/2-A	Lab Control Sample	Soluble	Solid	DI Leach	_
LCSD 880-54056/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	9
890-4709-7 MS	SS07	Soluble	Solid	DI Leach	
890-4709-7 MSD	SS07	Soluble	Solid	DI Leach	

#### Analysis Batch: 54097

		0010010	eena	Bread		
MB 880-54056/1-A	Method Blank	Soluble	Solid	DI Leach		8
LCS 880-54056/2-A	Lab Control Sample	Soluble	Solid	DI Leach		
LCSD 880-54056/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach		9
890-4709-7 MS	SS07	Soluble	Solid	DI Leach		
890-4709-7 MSD	SS07	Soluble	Solid	DI Leach		
Analysis Batch: 54097 —						
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
890-4709-1	SS01	Soluble	Solid	300.0	54056	
890-4709-2	SS02	Soluble	Solid	300.0	54056	
890-4709-3	SS03	Soluble	Solid	300.0	54056	4.9
890-4709-4	SS04	Soluble	Solid	300.0	54056	13
890-4709-5	SS05	Soluble	Solid	300.0	54056	
890-4709-6	SS06	Soluble	Solid	300.0	54056	
890-4709-7	SS07	Soluble	Solid	300.0	54056	
MB 880-54056/1-A	Method Blank	Soluble	Solid	300.0	54056	
LCS 880-54056/2-A	Lab Control Sample	Soluble	Solid	300.0	54056	
LCSD 880-54056/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	54056	
890-4709-7 MS	SS07	Soluble	Solid	300.0	54056	
890-4709-7 MSD	SS07	Soluble	Solid	300.0	54056	

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Job ID: 890-4709-1 SDG: 03D2024191

#### Lab Sample ID: 890-4709-1 Matrix: Solid

Date Collected: 05/22/23 15:00 Date Received: 05/23/23 08:34

**Client Sample ID: SS01** 

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 10:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 10:20	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	54064	05/24/23 12:15	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54024	05/25/23 05:33	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54097	05/25/23 13:24	СН	EET MID

## **Client Sample ID: SS02**

# Date Collected: 05/22/23 14:30

Date Received: 05/23/23 08:34

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 13:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/24/23 22:00	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54097	05/25/23 13:57	СН	EET MID

#### **Client Sample ID: SS03**

# Date Collected: 05/22/23 14:35

Date Received: 05/23/23 08:34

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 13:34	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/24/23 23:05	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54097	05/25/23 14:02	СН	EET MID

#### **Client Sample ID: SS04** Date Collected: 05/22/23 14:40 Date Received: 05/23/23 08:34

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 14:01	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID

**Eurofins Carlsbad** 

Matrix: Solid

# Lab Sample ID: 890-4709-2 Matrix: Solid

# Lab Sample ID: 890-4709-3

Lab Sample ID: 890-4709-4

Matrix: Solid

Job ID: 890-4709-1 SDG: 03D2024191

#### Lab Sample ID: 890-4709-4 Matrix: Solid

Lab Sample ID: 890-4709-5

Date Collected: 05/22/23 14:40 Date Received: 05/23/23 08:34

**Client Sample ID: SS04** 

Client: Ensolum

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/24/23 23:26	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	54097	05/25/23 14:07	СН	EET MID

# **Client Sample ID: SS05**

#### Date Collected: 05/22/23 14:45 Date Received: 05/23/23 08:34

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 15:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/24/23 23:48	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	54097	05/25/23 14:13	СН	EET MID

#### **Client Sample ID: SS06**

Date Collected: 05/22/23 14:50 Date Received: 05/23/23 08:34

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 16:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/25/23 00:09	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	54097	05/25/23 14:18	CH	EET MID

#### **Client Sample ID: SS07**

#### Date Collected: 05/22/23 14:55 Date Received: 05/23/23 08:34

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	54098	05/24/23 15:24	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	54206	05/27/23 16:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			54478	05/31/23 10:19	SM	EET MID
Total/NA	Analysis	8015 NM		1			54159	05/25/23 11:47	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	54080	05/24/23 12:56	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	54026	05/25/23 00:31	SM	EET MID

**Eurofins Carlsbad** 

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# Lab Sample ID: 890-4709-6

Lab Sample ID: 890-4709-7

Matrix: Solid

Matrix: Solid

Matrix: Solid

# Lab Chronicle

Job ID: 890-4709-1

# **Client Sample ID: SS07** Date Collected: 05/22/23 14:55

Client: Ensolum

Date Received:	05/23/23	08:34

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	54056	05/24/23 11:18	KS	EET MID
Soluble	Analysis	300.0		20	50 mL	50 mL	54097	05/25/23 14:37	СН	EET MID

#### Laboratory References:

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

SDG: 03D2024191

## Lab Sample ID: 890-4709-7 Matrix: Solid

# Accreditation/Certification Summary

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		Accreditation/C	ertification Summary		
Client: Ensolum Project/Site: Stratojet 3	1 State Com 8H			Job ID: 890-4709-1 SDG: 03D2024191	2
Laboratory: Eurofi Unless otherwise noted, all a	ins Midland analytes for this laborator	y were covered under each acc	reditation/certification below.		
Authority		Program	Identification Number	Expiration Date	
Texas		NELAP	T104704400-22-25	06-30-23	5
The following analytes the agency does not of	are included in this repo fer certification.	rt, but the laboratory is not certi	fied by the governing authority. This list ma	ay include analytes for which	6
Analysis Method 8015 NM	Prep Method	Matrix Solid	Analyte  Total TPH		
Total BTEX		Solid	Total BTEX		
					8
					9
					10
					13

Client: Ensolum

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Job ID: 890-4709-1 SDG: 03D2024191

lethod	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
otal 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
800.0	Anions, Ion Chromatography	EPA	EET MID
6035	Closed System Purge and Trap	SW846	EET MID
015NM Prep	Microextraction	SW846	EET MID
01 Leach	Deionized Water Leaching Procedure	ASTM	EET MID
Protocol Refe	rences:		
ASTM = A	STM International		
EPA = US	Environmental Protection Agency		
SW846 = '	"Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Editio	n, November 1986 And Its Updates.	
TAL SOP =	= TestAmerica Laboratories, Standard Operating Procedure		
Laboratory Re	eferences:		
EET MID =	= Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440		

# **Sample Summary**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H Job ID: 890-4709-1 SDG: 03D2024191

Lab Camala ID	Client Semale ID	Matuic	Collected	Dessived		
				Received	Depth	
890-4709-1	5501	Solid	05/22/23 15:00	05/23/23 08:34	0.5	
890-4709-2	SS02	Solid	05/22/23 14:30	05/23/23 08:34	0.5'	
890-4709-3	SS03	Solid	05/22/23 14:35	05/23/23 08:34	0.5'	
890-4709-4	SS04	Solid	05/22/23 14:40	05/23/23 08:34	0.5'	
890-4709-5	SS05	Solid	05/22/23 14:45	05/23/23 08:34	0.5'	
890-4709-6	SS06	Solid	05/22/23 14:50	05/23/23 08:34	0.5'	
890-4709-7	SS07	Solid	05/22/23 14:55	05/23/23 08:34	0.5'	
						1
						1
						1

Received by OCD: 7/20/2023 10:54:06 AM

# **3** 12 12 0 8 7 6 5 4 3 2

# 5/31/2023

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Project Manager:	Hadli	e Green				Bill to: (it	differen	t)	Kalei	Jennir	ngs									W	ork O	)rder (	Comments		
Company Name:	Enso	lum LLC				Compar	v Name		Ensol	um LL	C						Prog	ram: l	JST/PS	тПт		Brow	nfields 🗌 R		Superfund [
Address:	3122	National	Parks H			Address	·					1					State	of Pr	oject:	-	_				
City State 71D	Carls	had MM	88220	ivvy		City Sta	te 7IP										Repo	rting: I	_evel II	Le	vel III	D PS	r/UST 🗍 TF		Level IV
City, State ZiP.	Lans		00220		Email	haroon		lum or									Delive	erable	s: EDI			ADaP		her:	
Phone:	432-5	57-8895			Email	Ingreen	wenso	ium.co	2111																
Project Name:	Strate	ojet 31 St	ate Con	n 8H	Turi	n Around							-	ANA	LYSIS	REQ	JEST			1			Prese	rvative	Codes
Project Number:	03D2	024191			Routine	🗌 Rust	1	Code											-				None: NO	C	Water: H <sub>2</sub> O
Project Location:	32.52	248, -103.	5029		Due Date:	5 D	ay																Cool: Cool	٨	leOH: Me
Sampler's Name:	Ronn	i Hayes			TAT starts th	ne day rece	eived by																HCL: HC	F	INO3: HN
Cost Center #:					the lab, if re	ceived by	4:30pm	2													1		H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>	N	IaUH: Na
SAMPLE RECE	IPT	Temp	Blank:	Yes No	Wet Ice:	Tès	No	nete	ô,						mmn		1111	1111					H <sub>3</sub> PO <sub>4</sub> : HP		
Samples Received I	ntact:	(Yes)	No	Thermometer	er ID:	TM	-907	Lan	300														NaHSO <sub>4</sub> : N	ABIS	
Cooler Custody Sea	ls:	Yes No	N/A)	Correction F	actor:	1'-D	2	Pa	PA:														Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : N	aSO3	
Sample Custody Ser	als:	Yes No	NIA	Temperature	e Reading:		.D		S (E				890-4	709 C	hain of	Custo	ody						Zn Acetate+	NaOH:	Zn
Total Containers:				Corrected T	emperature:	0	.8		DE												1		NaOH+Asc	orbic Ad	d: SAPC
Sample Ide	ntificat	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLOF	втех	Н												Samp	ole Cor	nments
SSC	01		S	5/22/2023	1500	0.5'	Grab	1	X	X	X														
SSC	)2		S	5/22/2023	1430	0.5	Grab	1	Х	X	X						-								
SSO	)3		S	5/22/2023	1435	0.5'	Grab	1	X	X	X														
SSO	)4		S	5/22/2023	1440	0.5'	Grab	1	X	X	X														
SSO	)5		S	5/22/2023	1445	0.5	Grab	1	X	X	X														
SSO	)6		S	5/22/2023	1450	0.5'	Grab	1	х	X	X														
SSC	)7		S	5/22/2023	1455	0.5'	Grab	1	X	X	X			i di											
																		T							
			1											1								1			
Total 200.7 / 6 Circle Method(s) a	010 Ind Me	200.8 / 6	5020: be analy	zed	RCRA 13 TCLP/S	PPM Te SPLP 60	exas 11 10: 8R	AI S CRA	Sb As Sb A	s Ba As Ba	Be B Be C	Cd Cd C	Ca Cr r Co (	Co ( Cu Pt	Cu Fe Mn	Pb I Mo N	Mg M li Se	In Mo Ag	D Ni ł TI U	< Se	Ag S Hg:	iO <sub>2</sub> N 1631 /	a Sr TI Sr 245.1 / 747	1 U V 70 / 74	Zn 71
Notice: Signature of this of service. Eurofins Xen of Eurofins Xenco. A mi	docume co wili b nimum c	ent and relind e liable only harge of \$85	uishment for the co .00 will be	of samples con st of samples a applied to each	stitutes a valid nd shall not as project and a	purchase of sume any re charge of \$	esponsibl for each	lity for a sample	ny loss submit	es or e tted to	xpenses Eurofins	Incurr Xenco	ed by the but not	client if analyze	such lo d. These	sses are terms	e due to will be e	circun	d unless	s beyon previo	d the co usly neg	ontrol gotiated.			
Relinguished by	y: (Sia	nature)		Receive	d by: (Sian	ature)			Date	/Time	)	F	Relinqui	shed	by: (Si	gnatu	re)	Γ	Rec	eived	by: (S	ignatu	ire)	Da	te/Time
1 In anal			17	Ht.				5/20	122	815	0.0	2						1							
3 11/11/2		-	T		0.0	11-	1	01			DC-	AU										_			
e			A	in	all 1	suy		-/6	+ 3/4	23	65-	P.7_													
5		_	1					L				Ľ									-		Revis	ed Date: 08	/25/2020 Rev. 2020

## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 4709 List Number: 1 Creator: Stutzman, Amanda

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

#### Job Number: 890-4709-1 SDG Number: 03D2024191

List Source: Eurofins Carlsbad

Eurofins Carlsbad Released to Imaging: 10/13/2023 2:57:56 PM

Job Number: 890-4709-1 SDG Number: 03D2024191

List Source: Eurofins Midland

List Creation: 05/24/23 10:58 AM

## Login Sample Receipt Checklist

Client: Ensolum

Login Number: 4709 List Number: 2 Creator: Rodriguez, Leticia

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

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

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Received by OCD: 7/20/2023 10:54:06 AM



**Environment Testing** 

# **ANALYTICAL REPORT**

# PREPARED FOR

Attn: Hadlie Green Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 7/6/2023 10:05:35 AM Revision 1

# JOB DESCRIPTION

Stratojet 31 State Com 8H SDG NUMBER 03D2024191

# **JOB NUMBER**

890-4863-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

See page two for job notes and contact information.

5 6

# **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

AMER

Generated 7/6/2023 10:05:35 AM Revision 1

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

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

#### Laboratory Job ID: 890-4863-1 SDG: 03D2024191

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QC Association Summary	17
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Certification Summary	22
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Sample Summary	24
Chain of Custody	25
Receipt Checklists	27

•			
	Definitions/Glossary		
Client: Ensolu Project/Site: 3	um Stratojet 31 State Com 8H	Job ID: 890-4863-1 SDG: 03D2024191	
Qualifiers			
GC VOA Qualifier	Qualifier Description		
*+	LCS and/or LCSD is outside acceptance limits, high biased.		
F1	MS and/or MSD recovery exceeds control limits.		
S1-	Surrogate recovery exceeds control limits, low biased.		
S1+	Surrogate recovery exceeds control limits, high biased.		
U	Indicates the analyte was analyzed for but not detected.		
GC Semi VO	A		
Qualifier	Qualifier Description		
U	Indicates the analyte was analyzed for but not detected.		
HPLC/IC Qualifier	Qualifier Description		
U	Indicates the analyte was analyzed for but not detected.		
Glossary			
Abbreviation	These commonly used abbreviations may or may not be present in this report.		
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis		
%R	Percent Recovery		
CFL	Contains Free Liquid		
CFU	Colony Forming Unit		
CNF	Contains No Free Liquid		
DER	Duplicate Error Ratio (normalized absolute difference)		
Dil Fac	Dilution Factor		
DL	Detection Limit (DoD/DOE)		
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample		
DLC	Decision Level Concentration (Radiochemistry)		
EDL	Estimated Detection Limit (Dioxin)		
LOD	Limit of Detection (DoD/DOE)		

EPA recommended "Maximum Contaminant Level" MCL

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

Limit of Quantitation (DoD/DOE)

MDL Method Detection Limit ML Minimum Level (Dioxin)

LOQ

MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

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

NEG Negative / Absent POS Positive / Present

Practical Quantitation Limit PQL

PRES Presumptive **Quality Control** QC

Relative Error Ratio (Radiochemistry) RER RL Reporting Limit or Requested Limit (Radiochemistry)

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

TEF Toxicity Equivalent Factor (Dioxin)

TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

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Released to Imaging: 10/13/2023 2:57:56 PM

7/6/2023 (Rev. 1)

# **Case Narrative**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

#### Job ID: 890-4863-1

#### Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4863-1

#### REVISION

The report being provided is a revision of the original report sent on 7/3/2023. The report (revision 1) is being revised due to Per client email, requesting chloride re run on SW04.

#### Receipt

The samples were received on 6/26/2023 2:35 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 3.4°C

#### **Receipt Exceptions**

The following were received and analyzed from an unpreserved bulk soil jar: SW01 (890-4863-1), SW02 (890-4863-2), SW03 (890-4863-3) and SW04 (890-4863-4).

#### GC VOA

Method 8021B: The laboratory control sample duplicate (LCSD) for preparation batch 880-56543 and analytical batch 880-56598 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene and m-Xylene & p-Xylene. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-56543/5-A). Evidence of matrix interferences is not obvious.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-56543 and analytical batch 880-56598 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 samples were outside control limits: (880-30176-A-3-D) and (880-30176-A-3-B MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SW04 (890-4863-4). 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 sample was outside control limits: (890-4871-A-5-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The continuing calibration verification (CCV) associated with batch 880-56452 recovered below the lower control limit for Diesel Range Organics (Over C10-C28). An acceptable CCV was ran within the 12 hour window, therefore the data has been qualified and reported. The associated sample is impacted: (CCV 880-56452/31).

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

#### HPLC/IC

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

Job ID: 890-4863-1 SDG: 03D2024191

# **Client Sample Results**

RL

0.00199

0.00199

0.00199

0.00398

0.00199

0.00398

Limits

70 - 130

70 - 130

RL

RL

49.9

0.00398

MDL Unit

MDL Unit

MDL Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

Result Qualifier

<0.00199 U\*+

<0.00199 U\*+

<0.00398 U\*+

<0.00398 U\*+

%Recovery Qualifier

126

87

<0.00398 U

Result Qualifier

**Result Qualifier** 

<49.9 U

<0.00199 U

<0.00199 U

#### **Client Sample ID: SW01** Date Collected: 06/26/23 09:15 Date Received: 06/26/23 14:35 Sample Depth: 0 - 4

Analyte

Benzene

Toluene

o-Xylene

Surrogate

Analyte

Analyte

Total TPH

Total BTEX

Ethylbenzene

Xylenes, Total

m-Xylene & p-Xylene

4-Bromofluorobenzene (Surr)

1,4-Difluorobenzene (Surr)

SDG: 03	D2024191
Lab Sample ID: 890	0-4863-1
Mat	trix: Solid

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Job ID: 890-4863-1

Matrix: Solid

				Ð
D	Prepared	Analyzed	Dil Fac	
_	06/29/23 08:45	06/29/23 19:17	1	
	06/29/23 08:45	06/29/23 19:17	1	
	06/29/23 08:45	06/29/23 19:17	1	
	06/29/23 08:45	06/29/23 19:17	1	_
	06/29/23 08:45	06/29/23 19:17	1	8
	06/29/23 08:45	06/29/23 19:17	1	
	Prepared	Analyzed	Dil Fac	9
	06/29/23 08:45	06/29/23 19:17	1	
	06/29/23 08:45	06/29/23 19:17	1	
D	Prepared	Analvzed	Dil Fac	
_		06/30/23 15:51	1	
D	Prepared	Analyzed	Dil Fac	13
		06/29/23 09:22	1	
D	Prepared	Analyzed	Dil Fac	
_	06/28/23 13:54	06/29/23 05:03	1	
	06/28/23 13:54	06/29/23 05:03	1	
	00/00/00 40.54	00/00/00 05.00	4	

Lab Sample ID: 890-4863-2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 05:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 05:03	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 05:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130				06/28/23 13:54	06/29/23 05:03	1
o-Terphenyl	94		70 - 130				06/28/23 13:54	06/29/23 05:03	1
Method: EPA 300.0 - Anions, I	on Chroma	tography -	Soluble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorida	224		5.04		ma/Ka			06/28/23 16:07	1

#### **Client Sample ID: SW02** Date Collected: 06/26/23 09:25 Date Received: 06/26/23 14:35 Sample Depth: 0 - 4

Method: SW846 8021B - Volatile Organic Compounds		
Method. 50040 002 rb - Volatile Organic Compounds	60	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
Ethylbenzene	<0.00199	U *+	0.00199		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		06/29/23 08:45	06/29/23 19:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130				06/29/23 08:45	06/29/23 19:44	1

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# **Client Sample Results**

Limits

70 - 130

RL

RL

50.0

0.00398

MDL Unit

MDL Unit

mg/Kg

mg/Kg

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Job ID: 890-4863-1 SDG: 03D2024191

# **Client Sample ID: SW02**

Client: Ensolum

Surrogate

Analyte

Analyte

Total TPH

Total BTEX

1,4-Difluorobenzene (Surr)

Date Collected: 06/26/23 09:25	
Date Received: 06/26/23 14:35	
Sample Depth: 0 - 4	

#### Lab Sample ID: 890-4863-2 Matrix: Solid

Analyzed

Analyzed

06/30/23 15:51

Analyzed

06/29/23 09:22

06/29/23 08:45 06/29/23 19:44

Prepared

Prepared

Prepared

D

D

Dil Fac

Dil Fac

Dil Fac

1

1

1

5

Method: SW846 8015B N	M - Diesel Range Organics	(DRO) (GC)
Analyto	Result Qualifier	RI

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

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

%Recovery Qualifier

**Result Qualifier** 

Result Qualifier

<50.0 U

84

<0.00398 U

0.0	U	50.0		mg/Kg		06/28/23 13:54	06/20/23 05:25	1
0 0						00/20/20 10.04	00/29/23 03.23	I.
<u> </u>								
0.0	U	50.0		mg/Kg		06/28/23 13:54	06/29/23 05:25	1
0.0	U	50.0		mg/Kg		06/28/23 13:54	06/29/23 05:25	1
ery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
102		70 - 130				06/28/23 13:54	06/29/23 05:25	1
108		70 - 130				06/28/23 13:54	06/29/23 05:25	1
5	50.0 <b>very</b> 102 108	50.0 U <b>very <u>Qualifier</u></b> 102 108	50.0         U         50.0           very         Qualifier         Limits           102         70 - 130           108         70 - 130	50.0         U         50.0           very         Qualifier         Limits           102         70 - 130           108         70 - 130	50.0 U 50.0 mg/Kg <b>very</b> 102 108 <b>Qualifier</b> 70 - 130 70 - 130	50.0         U         50.0         mg/Kg           very         Qualifier         Limits           102         70 - 130           108         70 - 130	50.0         U         50.0         mg/Kg         06/28/23         13:54           very         Qualifier         Limits         Prepared         06/28/23         13:54           108         70 - 130         06/28/23         13:54         06/28/23         13:54	50.0       U       50.0       mg/Kg       06/28/23 13:54       06/29/23 05:25         very       Qualifier       Limits       Prepared       Analyzed         102       70 - 130       70 - 130       06/28/23 13:54       06/29/23 05:25         108       70 - 130       06/28/23 13:54       06/29/23 05:25

Method: EPA 300.0 - Anions, ion Chromatography - Soluble										
Analyte	Result Qu	alifier RL	MDL Unit	D	Prepared	Analyzed	Dil Fac			
Chloride	290	4.98	mg/Kg			06/28/23 16:12	1			

#### **Client Sample ID: SW03** Date Collected: 06/26/23 09:45 Date Received: 06/26/23 14:35 S nla Danthi A

#### Lab Sample ID: 890-4863-3 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U *+	0.00198		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
Toluene	<0.00198	U	0.00198		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
Ethylbenzene	<0.00198	U *+	0.00198		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
m-Xylene & p-Xylene	<0.00396	U *+	0.00396		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
Xylenes, Total	<0.00396	U *+	0.00396		mg/Kg		06/29/23 08:45	06/29/23 20:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)			70 - 130				06/29/23 08:45	06/29/23 20:10	1
1,4-Difluorobenzene (Surr)	84		70 - 130				06/29/23 08:45	06/29/23 20:10	1
- Method: TAL SOP Total BT	EX - Total BTE	X Calculat	ion						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	< 0.00396	U	0.00396		mg/Kg			06/30/23 15:51	1

wiethod: 500846 8015 NW - Die	sel Range U	rganics (DRO) (G	•)					
Analyte	Result C	Qualifier R	L MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0 L	J 50	0	mg/Kg			06/29/23 09:22	1

# **Client Sample Results**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

#### Client Sample ID: SW03 Date Collected: 06/26/23 09:45

Date Received: 06/26/23 14:35 Sample Depth: 0 - 4

	Diesel Range	e Organic	s (DRO) (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		06/28/23 13:54	06/29/23 05:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		06/28/23 13:54	06/29/23 05:47	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		06/28/23 13:54	06/29/23 05:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
1-Chlorooctane	91		70 - 130				06/28/23 13:54	06/29/23 05:47	1
o-Terphenyl	100		70 - 130				06/28/23 13:54	06/29/23 05:47	1
Method: EPA 300.0 - Anions,	Ion Chroma	tography	- Soluble						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	314		5.00		mg/Kg			06/28/23 16:17	1
Client Sample ID: SW04							Lab Samp	le ID: 890-4	863-4
Date Collected: 06/26/23 09:55 Date Received: 06/26/23 14:35 Sample Depth: 0 - 4								Matrix	: Solic
_ Method: SW846 8021B - Volat	tile Organic	Compour	ids (GC)						
Analyte	Result	Qualifier	` ´RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		06/30/23 08:34	06/30/23 22:26	1
Toluene	<0.00199	U	0.00199		mg/Kg		06/30/23 08:34	06/30/23 22:26	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		06/30/23 08:34	06/30/23 22:26	1

1,4-Difluorobenzene (Surr)	90		70 - 130		06/30/23 08:34	06/30/23 22:26
4-Bromofluorobenzene (Surr)	134	S1+	70 - 130		06/30/23 08:34	06/30/23 22:26
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed
Xylenes, Total	<0.00398	U	0.00398	mg/Kg	06/30/23 08:34	06/30/23 22:26
o-Xylene	<0.00199	U	0.00199	mg/Kg	06/30/23 08:34	06/30/23 22:26
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg	06/30/23 08:34	06/30/23 22:26
Ethylbenzene	<0.00199	U	0.00199	mg/Kg	06/30/23 08:34	06/30/23 22:26
Toluene	<0.00199	0	0.00199	iiig/kg	00/30/23 00.34	00/30/23 22.20

Method: TAL SOP Total BTEX	<ul> <li>Total BTE</li> </ul>	X Calculati	on						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			07/03/23 01:44	1
Method: SW846 8015 NM - Die	sel Range	Organics (I	DRO) (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			06/29/23 09:22	1
Method: SW846 8015B NM - Di Analyte	esel Range Result	Organics Qualifier	(DRO) (GC) <sub>RL</sub>	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 06:09	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 06:09	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		06/28/23 13:54	06/29/23 06:09	1

Limits Dil Fac Surrogate %Recovery Qualifier Prepared Analyzed 1-Chlorooctane 70 - 130 06/28/23 13:54 06/29/23 06:09 88 1 o-Terphenyl 94 70 - 130 06/28/23 13:54 06/29/23 06:09 1

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Job ID: 890-4863-1 SDG: 03D2024191

# Lab Sample ID: 890-4863-3

Matrix: Solid

1 1 1

Dil Fac 1 1

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		Client S	Sample I	Resul	ts					
Client: Ensolum Project/Site: Stratojet 31 State Com	1 8H		-					Job ID: 890- SDG: 03D2	-4863-1 024191	2
Client Sample ID: SW04 Date Collected: 06/26/23 09:55						l	Lab Samı	ole ID: 890-4 Matrix	863-4 : Solid	
Date Received: 06/26/23 14:35 Sample Depth: 0 - 4										
Method: EPA 300.0 - Anions, Ior	h Chroma	tography - S	Soluble		11	-	Descent	Austral	D'I 5	5
Chloride	446	Qualifier	4.99	MDL	mg/Kg	<u>D</u>	Prepared	07/05/23 16:10	<b>DII Fac</b> 1	
										8
										9
										13

# **Surrogate Summary**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

			Pe	rcent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1		
Lab Sample ID	Client Sample ID	(70-130)	(70-130)		
880-30148-A-4-C MS	Matrix Spike	106	84		
880-30148-A-4-D MSD	Matrix Spike Duplicate	104	88		
880-30176-A-3-B MS	Matrix Spike	136 S1+	98		
880-30176-A-3-C MSD	Matrix Spike Duplicate	112	83		
890-4863-1	SW01	126	87		
890-4863-2	SW02	118	84		
890-4863-3	SW03	118	84		
890-4863-4	SW04	134 S1+	90		
LCS 880-56543/1-A	Lab Control Sample	105	77		
LCS 880-56654/1-A	Lab Control Sample	106	91		
LCSD 880-56543/2-A	Lab Control Sample Dup	110	99		
LCSD 880-56654/2-A	Lab Control Sample Dup	120	90		
MB 880-56543/5-A	Method Blank	63 S1-	86		
MB 880-56654/5-A	Method Blank	71	87		
Surrogate Legend					
BFB = 4-Bromofluorobe	enzene (Surr)				
DFBZ = 1,4-Difluorober	nzene (Surr)				
-					

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

			Perc	ent Surrogate Recovery (Acceptance Limits)
		1CO1	OTPH1	
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	
890-4863-1	SW01	87	94	
890-4863-2	SW02	102	108	
890-4863-3	SW03	91	100	
890-4863-4	SW04	88	94	
890-4871-A-5-C MS	Matrix Spike	90	91	
890-4871-A-5-D MSD	Matrix Spike Duplicate	93	92	
LCS 880-56504/2-A	Lab Control Sample	92	101	
LCSD 880-56504/3-A	Lab Control Sample Dup	85	92	
MB 880-56504/1-A	Method Blank	94	105	

#### Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

**Eurofins Carlsbad** 

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#### Job ID: 890-4863-1 SDG: 03D2024191

Prep Type: Total/NA

# Prep Type: Total/NA

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

Lab Sample ID: MB 880-56543/5-A

**Matrix: Solid** 

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

Analysis Batch: 56598								Prep Batch:	56543
	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/29/23 08:45	06/29/23 16:14	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	63	S1-	70 - 130				06/29/23 08:45	06/29/23 16:14	1
1,4-Difluorobenzene (Surr)	86		70 - 130				06/29/23 08:45	06/29/23 16:14	1

#### Lab Sample ID: LCS 880-56543/1-A Matrix: Solid Analysis Batch: 56598

······, ·····								
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1295		mg/Kg		130	70 - 130	
Toluene	0.100	0.1263		mg/Kg		126	70 - 130	
Ethylbenzene	0.100	0.1208		mg/Kg		121	70 - 130	
m-Xylene & p-Xylene	0.200	0.2347		mg/Kg		117	70 - 130	
o-Xylene	0.100	0.1254		mg/Kg		125	70 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	77		70 - 130

#### Lab Sample ID: LCSD 880-56543/2-A Matrix: Solid

#### Analysis Batch: 56598

Analysis Daten. 00000							i iep Dateii. oo			
-	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Benzene	0.100	0.1391	*+	mg/Kg		139	70 - 130	7	35	
Toluene	0.100	0.1300		mg/Kg		130	70 - 130	3	35	
Ethylbenzene	0.100	0.1336	*+	mg/Kg		134	70 - 130	10	35	
m-Xylene & p-Xylene	0.200	0.2618	*+	mg/Kg		131	70 - 130	11	35	
o-Xylene	0.100	0.1301		mg/Kg		130	70 - 130	4	35	

	LCSD LCSD					
Surrogate	%Recovery	Qualifier	Limits			
4-Bromofluorobenzene (Surr)	110		70 - 130			
1,4-Difluorobenzene (Surr)	99		70 - 130			

#### Lab Sample ID: 880-30148-A-4-C MS Matrix: Solid

Matrix: Solid Analysis Batch: 56598									Prep Ty Prep E	pe: Total/NA Batch: 56543
-	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	<0.00201	U *+	0.0996	0.07271		mg/Kg		73	70 - 130	
Toluene	<0.00201	U F1	0.0996	0.06324	F1	mg/Kg		63	70 - 130	

**Eurofins Carlsbad** 

**Client Sample ID: Matrix Spike** 

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

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

Prep Batch: 56543

Prep Type: Total/NA

Prep	<b>Batch:</b>	56543
% Pac		חסס

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

# **QC Sample Results**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

# Method: 8021B - Volatile Orga

lethod: 8021B - Volat	ile Organio	c Compo	ounds (GC	C) (Conti	inued)						
Lab Sample ID: 880-3014 Matrix: Solid Analysis Batch: 56598	8-A-4-C MS						C	mple ID: Matrix Spike Prep Type: Total/NA Prep Batch: 56543			
Analysis Baten. 00000	Sample	Sample	Spike	MS	MS				%Rec	5	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethylbenzene	< 0.00201	U *+ F1	0.0996	0.05772	F1	mg/Kg		58	70 - 130		
m-Xylene & p-Xylene	<0.00402	U *+ F1	0.199	0.1108	F1	mg/Kg		56	70 - 130		
o-Xylene	<0.00201	U F1	0.0996	0.05574	F1	mg/Kg		56	70 - 130	7	
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits							8	
4-Bromofluorobenzene (Surr)	106		70 - 130								
1,4-Difluorobenzene (Surr)	84		70 - 130							9	
Lab Sample ID: 880-3014 Matrix: Solid	8-A-4-D MSC	)				Client Sample ID: Matrix Spike Duplic					
Analysis Batch: 56598									Pron Batch: 565/3		
Analysis Daten. 30390	Sample	Sample	Spike	MSD	MSD				%Rec RPD		

Lab Sample ID: 880-30148-A-4-D MSD
Matrix: Solid
Analysis Batch: 56598

Sample Sample Spike MSD MSD %R	C	RPD
Analyte Result Qualifier Added Result Qualifier Unit D %Rec Lim	ts RPD	Limit
Benzene         <0.00201         U *+         0.0994         0.06930         mg/Kg         70         70	30 5	35
Toluene <0.00201 U F1 0.0994 0.05814 F1 mg/Kg 58 70.	30 8	35
Ethylbenzene <0.00201 U*+ F1 0.0994 0.04689 F1 mg/Kg 47 70.	30 21	35
m-Xylene & p-Xylene <0.00402 U *+ F1 0.199 0.08876 F1 mg/Kg 45 70.	30 22	35
o-Xylene <0.00201 U F1 0.0994 0.04332 F1 mg/Kg 44 70-	30 25	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	88		70 - 130

#### Lab Sample ID: MB 880-56654/5-A Matrix: Solid Analysis Batch: 56649

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		06/30/23 08:34	06/30/23 12:27	1
	MB	МВ							

Surrogate	%Recovery Qualifier	Limits
4-Bromofluorobenzene (Surr)	71	70 - 130
1,4-Difluorobenzene (Surr)	87	70 - 130

#### Lab Sample ID: LCS 880-56654/1-A Matrix: Solid Analysis Batch: 56649

-	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	0.100	0.1145		mg/Kg		115	70 - 130	
Toluene	0.100	0.1146		mg/Kg		115	70 - 130	
Ethylbenzene	0.100	0.1107		mg/Kg		111	70 - 130	
m-Xylene & p-Xylene	0.200	0.2152		mg/Kg		108	70 - 130	

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Job ID: 890-4863-1 SDG: 03D2024191

#### **Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 56654

06/30/23 08:34 06/30/23 12:27

06/30/23 08:34 06/30/23 12:27

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Prepared

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Batch: 56654

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

Lab Sample ID: LCS 880-	56654/1-A					Clier	nt Sar	nple ID	: Lab Cor	ntrol Sa	ample
Matrix: Solid									Prep Ty	pe: Tot	al/NA
Analysis Batch: 56649									Prep E	Batch:	56654
			Spike	LCS	LCS				%Rec		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
o-Xylene			0.100	0.1095		mg/Kg		110	70 - 130		
	LCS	LCS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	106		70 - 130								
1,4-Difluorobenzene (Surr)	91		70 - 130								
Lab Sample ID: LCSD 88	0-56654/2-A				c	Client Sa	mple	ID: Lat	o Control	Sample	e Dup
Matrix: Solid							- C		Prep Ty	pe: Tot	al/NA
Analysis Batch: 56649									Prep E	Batch: {	56654
-			Spike	LCSD	LCSD				%Rec		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene			0.100	0.1259		mg/Kg		126	70 - 130	9	35
Toluene			0.100	0.1228		mg/Kg		123	70 - 130	7	35
Ethylbenzene			0.100	0.1200		mg/Kg		120	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.2354		mg/Kg		118	70 - 130	9	35
o-Xylene			0.100	0.1232		mg/Kg		123	70 - 130	12	35
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	120		70 - 130								
1,4-Difluorobenzene (Surr)	90		70 - 130								
Lab Sample ID: 880-3017	6-A-3-B MS						CI	ient Sa	mple ID: I	Matrix	Spike
Matrix: Solid									Prep Ty	pe: Tot	al/NA
Analysis Batch: 56649									Prep E	Batch:	56654
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Benzene	<0.00200	U	0.0996	0.1246		mg/Kg		125	70 - 130		
Toluene	0.00264		0.0996	0.1189		mg/Kg		117	70 - 130		
Ethylbenzene	<0.00200	U	0.0996	0.1137		mg/Kg		114	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.199	0.2242		mg/Kg		113	70 - 130		
o-Xylene	<0.00200	U	0.0996	0.1072		mg/Kg		108	70 - 130		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	136	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	98		70 - 130								
Lab Sample ID: 880-3017	6-A-3-C MSD					Client S	Samp	le ID: N	latrix Spil	ke Dup	licate

#### Lab Sample ID: 880-30176-A-3-C MSD Matrix: Solid Analysis Batch: 56649

Analysis Batch: 56649									Prep E	atch:	56654
-	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	<0.00200	U	0.0994	0.1120		mg/Kg		113	70 - 130	11	35
Toluene	0.00264		0.0994	0.1080		mg/Kg		106	70 - 130	10	35
Ethylbenzene	<0.00200	U	0.0994	0.09685		mg/Kg		97	70 - 130	16	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1886		mg/Kg		95	70 - 130	17	35
o-Xylene	<0.00200	U	0.0994	0.1028		mg/Kg		103	70 - 130	4	35

Prep Type: Total/NA

Job ID: 890-4863-1 SDG: 03D2024191

Lab Sample ID: 880-30176-A-3-C MSD

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

Client: Ensolum

# QC Sample Results

Job ID: 890-4863-1 SDG: 03D2024191

**Client Sample ID: Matrix Spike Duplicate** 

#### Matrix: Solid Prep Type: Total/NA Analysis Batch: 56649 Prep Batch: 56654 MSD MSD %Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 112 70 - 130 1,4-Difluorobenzene (Surr) 83 70 - 130 Method: 8015B NM - Diesel Range Organics (DRO) (GC) Lab Sample ID: MB 880-56504/1-A **Client Sample ID: Method Blank Prep Type: Total/NA** Matrix: Solid Analysis Batch: 56452 Prep Batch: 56504 MB MB RL Analyte **Result Qualifier** MDL Unit D Prepared Analyzed Gasoline Range Organics <50.0 U 50.0 mg/Kg 06/28/23 13:54 06/28/23 20:49 (GRO)-C6-C10 **Diesel Range Organics (Over** <50.0 U 50.0 mg/Kg 06/28/23 13:54 06/28/23 20:49 C10-C28) Oll Range Organics (Over C28-C36) 50.0 06/28/23 13:54 06/28/23 20:49 <50.0 U mg/Kg MR MR Limits Surrogate %Recovery Qualifier Prepared Analyzed 1-Chlorooctane 94 70 - 130 06/28/23 13:54 06/28/23 20:49 105 70 - 130 06/28/23 13:54 06/28/23 20:49 o-Terphenyl Lab Sample ID: LCS 880-56504/2-A Matrix: Solid Analysis Batch: 56452 LCS LCS %Rec Spike Added **Result Qualifier** Limits Analyte Unit D %Rec Gasoline Range Organics 1000 913.1 mg/Kg 91 70 - 130 (GRO)-C6-C10 1000 **Diesel Range Organics (Over** 1022 mg/Kg 102 70 - 130 C10-C28) LCS LCS Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 92 o-Terphenyl 101 70 - 130 Lab Sample ID: LCSD 880-56504/3-A **Client Sample ID: Lab Control Sample Dup** Matrix: Solid Prep Type: Total/NA Analysis Batch: 56452 Prep Batch: 56504 Spike LCSD LCSD %Rec Analyte Added **Result Qualifier** Unit D %Rec Limits RPD Gasoline Range Organics 1000 950.2 mg/Kg 95 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over 1000 1097 110 70 - 130 mg/Kg C10-C28) LCSD LCSD Surrogate %Recovery Qualifier Limits 1-Chlorooctane 70 - 130 85 o-Terphenyl 92 70 - 130 **Eurofins Carlsbad** Page 14 of 28 Released to Imaging: 10/13/2023 2:57:56 PM

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# **Client Sample ID: Lab Control Sample**

Prep Type: Total/NA Prep Batch: 56504

7/6/2023 (Rev. 1)

**Matrix: Solid** 

Analysis Batch: 56510

# **QC Sample Results**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

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

Lab Sample ID: 890-4871- Matrix: Solid	A-5-C MS						C	lient Sa	mple ID: Ma	atrix Spike	Ð
Analysis Batch: 56452									Prep Ba	tch: 56504	4
	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics	<49.9	U	996	888.9		mg/Kg		88	70 - 130		-
Diesel Range Organics (Over C10-C28)	<49.9	U	996	842.6		mg/Kg		85	70 - 130		
	MS	MS									
Surrogate	%Recoverv	Qualifier	Limits								
1-Chlorooctane	90		70 - 130	-							
o-Terphenyl	91		70 - 130								
_ ab Sample ID: 890-4871.						Client	Samn	le ID: N	latrix Snike		6
Matrix: Solid						onent	Jump		Pren Tyne	• Total/N	Δ
Analysis Batch: 56452									Pren Ba	tch: 5650	4
Analysis Baten. 00402	Sample	Sample	Snike	MSD	MSD				%Rec	RPI	ה
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD Limi	it
Gasoline Range Organics	<49.9	<u>U</u>	996	916.5		ma/Ka		90	70 - 130	3 2	ō
(GRO)-C6-C10						5. 5					
Diesel Range Organics (Over	<49.9	U	996	881.3		mg/Kg		88	70 - 130	4 2	0
C10-C28)											
	MSD	MSD									
Surroacto	%Recovery	Qualifier	Limits								
Surroyale			70 - 130	-							
1-Chlorooctane	93		10-100								
I-Chlorooctane o-Terphenyl	93 92		70 - 130								
1-Chlorooctane o-Terphenyl Vlethod: 300.0 - Anions	93 92 s, lon Chro	omatograp	70 - 130								_
I-Chlorooctane o-Terphenyl Vlethod: 300.0 - Anions Lab Sample ID: MB 880-5	93 92 s, Ion Chro 6484/1-A	omatograp	70 - 130				Clie	ent Sam	nple ID: Met	thod Blanl	- k
J-Chlorooctane         o-Terphenyl         Wethod: 300.0 - Anions         Lab Sample ID: MB 880-5         Matrix: Solid	93 92 s, Ion Chro 6484/1-A	omatograp	70 - 130				Clie	ent Sarr	nple ID: Met Prep Typ	thod Blani	- k e
I-Chlorooctane o-Terphenyl Wethod: 300.0 - Anions Lab Sample ID: MB 880-5 Matrix: Solid Analysis Batch: 56510	93 92 s, lon Chro 6484/1-A	omatograp	70 - 130				Clie	ent Sam	nple ID: Met Prep Typ	thod Blanl be: Soluble	k e
I-Chlorooctane o-Terphenyl Method: 300.0 - Anions Lab Sample ID: MB 880-5 Matrix: Solid Analysis Batch: 56510	93 92 s, lon Chro 6484/1-A	omatograp <sup>MB MB</sup>	70 - 130				Clie	ent Sam	ıple ID: Met Prep Typ	thod Blani be: Solubi	k e
I-Chlorooctane o-Terphenyl Vethod: 300.0 - Anions Lab Sample ID: MB 880-5 Matrix: Solid Analysis Batch: 56510 Analyte	93 92 <mark>s, lon Chro</mark> 6484/1-A Re	Omatograp MB MB esult Qualifier	70 - 130	RL	MDL Unit		Clie	ent Sam	ıple ID: Met Prep Typ Analyze	thod Blani be: Solubi d Dil Fa	k e c
1-Chlorooctane         o-Terphenyl         Vlethod: 300.0 - Anions         Lab Sample ID: MB 880-5         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride	93 92 s, lon Chro 6484/1-A 	MB MB esult Qualifier 5.00 U	70 - 130	<b>RL</b> 5.00	MDL Unit	<u>ر</u> ق ر	Clie	ent Sarr	nple ID: Met Prep Typ 	thod Blani be: Soluble d Dil Fa	- k e 1
J-Chlorooctane         o-Terphenyl         Method: 300.0 - Anions         Lab Sample ID: MB 880-5         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride         Lab Sample ID: LCS 880-4	93 92 s, lon Chro 6484/1-A 	MB MB esult Qualifier 5.00 U	70 - 130	<b>RL</b> 5.00	MDL Unit	G Cliei	Clic D P nt Sa	ent Sam repared	nple ID: Met Prep Typ - <u>Analyze</u> 06/28/23 15	thod Blani be: Soluble d 5:31 Dil Fa fol Sample	 <b>k</b> e c_1 ⊋
J-Chlorooctane         o-Terphenyl         Method: 300.0 - Anions         Lab Sample ID: MB 880-5         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride         Lab Sample ID: LCS 880-4         Matrix: Solid	93 92 s, lon Chro 6484/1-A 	MB MB esult Qualifier 5.00 U	70 - 130	<b>RL</b> 5.00	MDL Unit	G Clier	Clie <u>P</u> P	ent Sam Prepared	nple ID: Met Prep Typ 	thod Blani be: Soluble d Dil Fa 5:31 rol Sample be: Soluble	
J-Chlorooctane         o-Terphenyl         Method: 300.0 - Anions         Lab Sample ID: MB 880-5         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride         Lab Sample ID: LCS 880-5         Matrix: Solid         Analyte         Chloride         Lab Sample ID: LCS 880-5         Matrix: Solid         Analysis Batch: 56510	93 92 s, lon Chro 6484/1-A 	MB MB esult Qualifier 5.00 U	70 - 130	<b>RL</b> 5.00	MDL Unit	g Clier	Clie DP nt Sa	ent Sam Prepared mple ID	nple ID: Met Prep Typ 	thod Blanl be: Soluble d Dil Fa 5:31 rol Sample be: Soluble	<b>k</b> <b>e</b> <b>c</b> 1 <b>e</b>
1-Chlorooctane         o-Terphenyl         Wethod: 300.0 - Anions         Lab Sample ID: MB 880-50         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride         Lab Sample ID: LCS 880-50         Matrix: Solid         Analyte         Chloride         Lab Sample ID: LCS 880-50         Matrix: Solid         Analysis Batch: 56510	93 92 s, lon Chro 6484/1-A <u>Re</u> 56484/2-A	MB MB esult 5.00 U	70 - 130 <b>Dhy</b>	RL 5.00 LCS	MDL Unit mg/k	(g Clie	Clie D P nt Sa	ent Sam Prepared mple ID	nple ID: Met Prep Typ 	thod Bland be: Soluble 5:31 Dil Fa rol Sample be: Soluble	<b>k</b> <b>e</b> 1 <b>e</b>
1-Chlorooctane         o-Terphenyl         Method: 300.0 - Anions         Lab Sample ID: MB 880-50         Matrix: Solid         Analysis Batch: 56510         Analyte         Chloride         Lab Sample ID: LCS 880-50         Matrix: Solid         Analyte         Chloride         Analysis Batch: 56510         Analysis Batch: 56510         Analysis Batch: 56510         Analysis Batch: 56510	93 92 s, lon Chro 6484/1-A 	MB MB esult Qualifier 5.00 U	Spike Added	RL 5.00 LCS Result	MDL Unit mg/k LCS Qualifier	(g Clien Unit	Clic D P nt Sa	ent Sam Prepared mple ID %Rec	nple ID: Met Prep Typ <u>Analyze</u> 06/28/23 15 <b>Lab Contr</b> Prep Typ %Rec Limits	thod Blani be: Soluble Dil Fa 5:31 Dil Fa fol Sample be: Soluble	

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

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	250	260.9		mg/Kg		104	90 - 110	2	20

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Job ID: 890-4863-1

SDG: 03D2024191

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

#### Job ID: 890-4863-1 SDG: 03D2024191

# Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4861-4	A-5-B MS							C	lient Sa	mple ID: I	Matrix	Spike
Matrix: Solid										Prep Ty	ype: So	oluble
Analysis Batch: 56510												
	Sample	Sample	Spike		MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Re	esult	Qualifier	Unit	_ <u>D</u>	%Rec	Limits		
Chloride	66.0		248	2	288.7		mg/Kg		90	90 - 110		
Lab Sample ID: 890-4861-4	A-5-D MSD						Client S	amp	le ID: N	latrix Spil	ke Dup	licate
Matrix: Solid										Prep T	ype: S	oluble
Analysis Batch: 56510												
	Sample	Sample	Spike	F	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Re	esult	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	66.0		248	2	289.5		mg/Kg		90	90 - 110	0	20
Lab Sample ID: MB 880-56	951/1-4							Clie	ont Sam	nle ID <sup>.</sup> M	ethod	Blank
Matrix: Solid	JUNIA							one	Sint Oan	Pron T	vne: S	
Analysis Batch: 57012										i iep i	ype. 0	orubic
Analysis Baton. 07012		MB MB										
Analyte	Re	esult Qualifier		RL		MDL Unit	D	Р	repared	Analyz	zed	Dil Fac
Chloride	<	5.00 U		5.00		mg/Kg				07/05/23	13:35	1
Lab Sample ID: LCS 880-5	6951/2-A						Client	t Sa	mple ID	: Lab Cor	ntrol Sa	ample
Matrix: Solid										Prep T	ype: So	oluble
Analysis Batch: 57012												
			Spike	_	LCS	LCS		_		%Rec		
Analyte			Added	Re	esult	Qualifier	Unit	_ <u>D</u>	%Rec			
Chioride			250	2	40.3		mg/Kg		96	90 - 110		
I ab Sample ID: I CSD 880-	-56951/3-A					C	lient San	nnle	ID <sup>.</sup> I ab		Sampl	e Dun
Matrix: Solid								ipic	ib. Eur	Prep Ty	vne: Se	oluble
Analysis Batch: 57012												
·····,····			Spike	L	CSD	LCSD				%Rec		RPD
Analyte			Added	Re	esult	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			250	2	240.4		mg/Kg		96	90 - 110	0	20
								~				0
Lab Sample ID: 880-30227	-A-2-E MS							C	lient Sa	mpie ID: I	Matrix	Spike
Matrix: Solid										Prep	ype: So	oluble
Analysis Batch: 57012	Sampla	Sampla	Spiko		ме	ме				% Pac		
Analyta	Bosult	Ouglifier	Addod	Po		Qualifier	Unit	п	% Boo	/onec		
Chloride	105		248	3	347 4	Quaimer	ma/Ka		98	90 - 110		
	100		210	Ũ	,				00	00-110		
Lab Sample ID: 880-30227	-A-2-F MSD	)					<b>Client S</b>	amp	le ID: N	latrix Spil	ke Dup	licate
Matrix: Solid								-		Prep T	ype: S	oluble
Analysis Batch: 57012												
	Sample	Sample	Spike	r	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Re	esult	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	105		248	3	847.8		mg/Kg		98	90 - 110	Ō	20

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

# **GC VOA**

#### Prep Batch: 56543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-1	SW01	Total/NA	Solid	5035	
890-4863-2	SW02	Total/NA	Solid	5035	
890-4863-3	SW03	Total/NA	Solid	5035	
MB 880-56543/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56543/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56543/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30148-A-4-C MS	Matrix Spike	Total/NA	Solid	5035	
880-30148-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 56598

880-30148-A-4-C MS	Matrix Spike	Iotal/NA	Solid	5035		
880-30148-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035		8
Analysis Batch: 56598	В					9
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch	
890-4863-1	SW01	Total/NA	Solid	8021B	56543	
890-4863-2	SW02	Total/NA	Solid	8021B	56543	
890-4863-3	SW03	Total/NA	Solid	8021B	56543	
MB 880-56543/5-A	Method Blank	Total/NA	Solid	8021B	56543	
LCS 880-56543/1-A	Lab Control Sample	Total/NA	Solid	8021B	56543	
LCSD 880-56543/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56543	
880-30148-A-4-C MS	Matrix Spike	Total/NA	Solid	8021B	56543	
880-30148-A-4-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56543	13

#### Analysis Batch: 56649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-4	SW04	Total/NA	Solid	8021B	56654
MB 880-56654/5-A	Method Blank	Total/NA	Solid	8021B	56654
LCS 880-56654/1-A	Lab Control Sample	Total/NA	Solid	8021B	56654
LCSD 880-56654/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	56654
880-30176-A-3-B MS	Matrix Spike	Total/NA	Solid	8021B	56654
880-30176-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	56654

#### Prep Batch: 56654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-4	SW04	Total/NA	Solid	5035	
MB 880-56654/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-56654/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-56654/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-30176-A-3-B MS	Matrix Spike	Total/NA	Solid	5035	
880-30176-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

#### Analysis Batch: 56727

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4863-1	SW01	Total/NA	Solid	Total BTEX	
890-4863-2	SW02	Total/NA	Solid	Total BTEX	
890-4863-3	SW03	Total/NA	Solid	Total BTEX	
890-4863-4	SW04	Total/NA	Solid	Total BTEX	

# GC Semi VOA

#### Analysis Batch: 56452

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
890-4863-1	SW01	Total/NA	Solid	8015B NM	56504
890-4863-2	SW02	Total/NA	Solid	8015B NM	56504

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Job ID: 890-4863-1

SDG: 03D2024191

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Solid

Solid

Solid

Solid

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

# GC Semi VOA (Continued)

Lab Sample ID

MB 880-56504/1-A

LCS 880-56504/2-A

890-4863-3

890-4863-4

#### Analysis Batch: 56452 (Continued)

**Client Sample ID** 

Lab Control Sample

Method Blank

SW03

SW04

LCSD 880-56504/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM
890-4871-A-5-C MS	Matrix Spike	Total/NA	Solid	8015B NM
890-4871-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM
Prep Batch: 56504				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method
890-4863-1	SW01	Total/NA	Solid	8015NM Prep
890-4863-2	SW02	Total/NA	Solid	8015NM Prep
890-4863-3	SW03	Total/NA	Solid	8015NM Prep
890-4863-4	SW04	Total/NA	Solid	8015NM Prep
MB 880-56504/1-A	Method Blank	Total/NA	Solid	8015NM Prep

890-4863-4	SW04	Total/NA	Solid	8015NM Prep
MB 880-56504/1-A	Method Blank	Total/NA	Solid	8015NM Prep
LCS 880-56504/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep
LCSD 880-56504/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep
890-4871-A-5-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep
890-4871-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-2	SW01 SW02	Total/NA	Solid	8015 NM	
890-4863-3	SW03	Total/NA	Solid	8015 NM	
890-4863-4	SW04	Total/NA	Solid	8015 NM	

# HPLC/IC

#### Leach Batch: 56484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-1	SW01	Soluble	Solid	DI Leach	
890-4863-2	SW02	Soluble	Solid	DI Leach	
890-4863-3	SW03	Soluble	Solid	DI Leach	
MB 880-56484/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56484/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56484/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4861-A-5-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4861-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

#### Analysis Batch: 56510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-1	SW01	Soluble	Solid	300.0	56484
890-4863-2	SW02	Soluble	Solid	300.0	56484
890-4863-3	SW03	Soluble	Solid	300.0	56484
MB 880-56484/1-A	Method Blank	Soluble	Solid	300.0	56484
LCS 880-56484/2-A	Lab Control Sample	Soluble	Solid	300.0	56484
LCSD 880-56484/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56484
890-4861-A-5-B MS	Matrix Spike	Soluble	Solid	300.0	56484
890-4861-A-5-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	56484

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Prep Batch

56504

56504

56504

56504

56504

56504

56504

Prep Batch

Job ID: 890-4863-1 SDG: 03D2024191

Method

8015B NM

8015B NM

8015B NM

8015B NM

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

# HPLC/IC

#### Leach Batch: 56951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-4	SW04	Soluble	Solid	DI Leach	
MB 880-56951/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-56951/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-56951/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-30227-A-2-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-30227-A-2-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

### Analysis Batch: 57012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4863-4	SW04	Soluble	Solid	300.0	56951
MB 880-56951/1-A	Method Blank	Soluble	Solid	300.0	56951
LCS 880-56951/2-A	Lab Control Sample	Soluble	Solid	300.0	56951
LCSD 880-56951/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	56951
880-30227-A-2-E MS	Matrix Spike	Soluble	Solid	300.0	56951
880-30227-A-2-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	56951

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Job ID: 890-4863-1 SDG: 03D2024191
Project/Site: Stratojet 31 State Com 8H

**Client: Ensolum** 

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## Lab Chronicle

Job ID: 890-4863-1 SDG: 03D2024191

# Lab Sample ID: 890-4863-1

Matrix: Solid

**Client Sample ID: SW01** Date Collected: 06/26/23 09:15 Date Received: 06/26/23 14:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 19:17	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56727	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56555	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	56504	06/28/23 13:54	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/29/23 05:03	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:07	СН	EET MID

## Lab Sample ID: 890-4863-2 Matrix: Solid

Lab Sample ID: 890-4863-3

Lab Sample ID: 890-4863-4

Matrix: Solid

Date Collected: 06/26/23 09:25 Date Received: 06/26/23 14:35

Client Sample ID: SW02

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 19:44	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56727	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56555	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	56504	06/28/23 13:54	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/29/23 05:25	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:12	СН	EET MID

## **Client Sample ID: SW03** Date Collected: 06/26/23 09:45 Date Received: 06/26/23 14:35

-	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	56543	06/29/23 08:45	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56598	06/29/23 20:10	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56727	06/30/23 15:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			56555	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	56504	06/28/23 13:54	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/29/23 05:47	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	56484	06/28/23 09:55	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	56510	06/28/23 16:17	CH	EET MID

## **Client Sample ID: SW04** Date Collected: 06/26/23 09:55 Date Received: 06/26/23 14:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	56654	06/30/23 08:34	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	56649	06/30/23 22:26	SM	EET MID
Total/NA	Analysis	Total BTEX		1			56727	07/03/23 01:44	SM	EET MID

**Eurofins Carlsbad** 

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Matrix: Solid

Client: Ensolum Project/Site: Stratojet 31 State Com 8H

## Client Sample ID: SW04 Date Collected: 06/26/23 09:55 Date Received: 06/26/23 14:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			56555	06/29/23 09:22	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	56504	06/28/23 13:54	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	56452	06/29/23 06:09	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	56951	07/05/23 11:30	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	57012	07/05/23 16:10	СН	EET MID

#### Laboratory References:

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

Job ID: 890-4863-1 SDG: 03D2024191

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# Lab Sample ID: 890-4863-4

Matrix: Solid

Eurofins Carlsbad

## **Accreditation/Certification Summary**

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	Acc	reditation/Ce	ertification Summary		
Client: Ensolum Project/Site: Stratojet	31 State Com 8H			Job ID: 890-4863-1 SDG: 03D2024191	2
Laboratory: Euro	ofins Midland				
Unless otherwise noted, al	Il analytes for this laborato	ry were covered under	each accreditation/certification below.		
Authority	Pro	ogram	Identification Number	Expiration Date	
Texas	NE	LAP	T104704400-23-26	06-30-24	-
The following analyte	s are included in this repo	rt, but the laboratory is ı	not certified by the governing authority.	This list may include analytes for which	5
the agency does not	offer certification.				
Analysis Method	Prep Method	Matrix	Analyte		
8015 NM		Solid			
Iotal BIEX		Solid	Iotal BIEX		
					8
					9
					10
					10
					13

**Eurofins Carlsbad** 

## **Method Summary**

Client: Ensolum Project/Site: Stratojet 31 State Com 8H Job ID: 890-4863-1 SDG: 03D2024191

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

Client: Ensolum Project/Site: Stratojet 31 State Com 8H Job ID: 890-4863-1 SDG: 03D2024191

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth	
890-4863-1	SW01	Solid	06/26/23 09:15	06/26/23 14:35	0 - 4	
890-4863-2	SW02	Solid	06/26/23 09:25	06/26/23 14:35	0 - 4	
890-4863-3	SW03	Solid	06/26/23 09:45	06/26/23 14:35	0 - 4	5
890-4863-4	SW04	Solid	06/26/23 09:55	06/26/23 14:35	0 - 4	5
						8
						9
						10
						4.0
						12
						13

Received by OCD: 7/20/2023 10:54:06 AM

#### **4 5 7 6 11 12 12 12 13**

# 7/6/2023 (Rev. 1)

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Project Manager:	Hadlie	e Green				Bill to: (	if differen	1)	Kalei	Jennir	ngs						Work Order Comments									
Company Name:	Ensol	um, LLC				Compa	ny Name	:	Ensolum, LLC								Program: UST/PST PRP Brownfields RRC Superfur									
Address:	601 N	Marienfe	eld St S	uite 400		Address	s:		601 N	Marie	enfeld S	St Suite	400				State	of Pre	oject:							
City, State ZIP:	Midla	nd, TX 79	701			City, Sta	ate ZIP:		Midla	nd, TX	79701			_			Repo	rting: L	evel II	Le	vel III	D PS	T/UST 🗌 TR	RP Level IV		
Phone:	432-5	57-8895			Email:	hgreen	n@enso	lum.c	om, kj	ennin	gs@ei	nsolum	n.com	1			Delive	erables	s: EDD			ADaP	T 🗆 Ot	ner:		
Project Name:		trataiat 2	1 State	Com 8H	Tur	Around	4		1					ΔΝΔΙ	YSIS	REC	UEST						Prese	vative Codes		
Project Number:			202419		Routine	Rus	sh	Pres.	1	1	T					1-0				1		T	None: NO	DI Water: H <sub>2</sub> O		
Project Location:		32 524	8 1024	5020	Due Date:			Code								_		1			1	1	Cool: Cool	MeOH: Me		
Sampler's Name:		Peter	Van Pa	tten	TAT starts th	e dav reo	eived by																HCL: HC	HNO3: HN		
PO #:	-				the lab, if red	eived by	4:30pm	2						1 1	1								H <sub>2</sub> S0 <sub>4</sub> : H <sub>2</sub>	NaOH: Na		
SAMPLE RECEI	т	Temp B	Blank:	Yes No	Wet Ice:	Yes	No	letei	6						a in tala.		$\mathbf{I}$						H <sub>3</sub> PO <sub>4</sub> : HP			
Samples Received In	tact:	Yes	No	Thermometer	ID: 1	NN	657	Lam	300.														NaHSO₄: NA	BIS		
Cooler Custody Seals	s:	Yes No	NA	Correction Fa	ctor:	5-	2.2	Pa	- YA					mun									Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : Na	ISO3		
Sample Custody Seal	s:	Yes No	(N/A)	Temperature	Reading:	3.	.6		S (E		=			890-48	63 Cha	in of	Custo	dy		11			Zn Acetate+	NaOH: Zn		
Total Containers:				Corrected Ter	mperature:	3	.4		E E	015)	802			1					;	1	1		NaOH+Asco	rbic Acid: SAPC		
Sample Ident	tificati	ion	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLOF	TPH (8	BTEX (												Samp	le Comments		
SWO	1		Soil	6/26/2023	915	0'-4'	Comp	1	x	×	x															
SWO	2		Soil	6/26/2023	925	0'-4'	Comp	1	x	x	x					_	_									
SW0	3		Soil	6/26/2023	945	0'-4'	Comp	1	x	×	x									L						
SWO	4		Soil	6/26/2023	955	0'-4'	Comp	1	x	×	×						-	-		-	-	-				
					-110	Tall																				
	-			- Car	100		-		-								-					-				
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Total 200.7 / 60 Circle Method(s) an	10 d Met	200.8 / 6	020: e analyz	8l zed	RCRA 13P TCLP/S	PM Te PLP 60	exas 11 010: 8R	AI S CRA	Sb As Sb A	Ba I As Ba	Be Be (	Cd Cr	a Cr Co	Co C Cu Pb	Mn_N	Pb I	Mg M Ni Se	n Mo Ag T	Ni K	Se /	Ag Si Hg:	O <sub>2</sub> Na 1631 /	a Sr TI Sn /245.1/747	U V Zn 0 / 7471		
f service. Eurofins Xenco f Eurofins Xenco. A mini	ocumer o will be mum ch	e liable only f harge of \$85.0	or the cos 00 will be	or samples consi at of samples and applied to each p	shall not assur roject and a ch	ne any res arge of \$5	sponsibilit for each s	y for an ample	y losses submitte	s or exp ed to EL	enses in profins X	ncurred b lenco, bu	by the c it not a	lient if s nalyzed.	uch losse These te	rms w	due to d	forced	tances I unless p	beyond	the cont iy nego	trol tiated.				
Relinquished by:	(Sign	nature)	IA	Received	by: (Signa	ture)			Date	/Time		Re	linqu	ished I	oy: (Sig	inatu	ire)		Rece	eived	by: (S	ignatu	ire)	Date/Time		
Randala	the			loe Ci	10			6.	ale	23	48	8_					_									
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												5												Date 08/25/2020 Rev 2020		

Chain of Custody

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Eurofins Carlsbad				
1089 N Canal St.				

## **Chain of Custody Record**

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089 N Canal St. arisbad, NM 88220 hone. 575-988-3199 Fax 575-988-3199	(	Chain	of Cust	ody F	lec	ord											1	s eurofins	Environment Te	esting	
lient Information (Sub Contract Lab)	Sampler <sup>.</sup>			Lab I Kraj	PM mer J	essina						Carri	er Traci	king No(	s).			COC No:			
ient Contact:	Phone:	*********************		E-Ma	ail:	000100		w				State	of Orig	in				Page <sup>-</sup>			
hipping/Receiving		Jessic						ica Kramer@et.eurofinsus.com										Page 1 of 1			
urofins Environment Testing South Centr	A A A A A A A A A A A A A A A A A A A					Accreditations Required (See note): NELAP - Texas												Job#' 890-4863-1			
Idress 211 M Florida Ave	Due Date Request	ed							A									Preservation Co	des		
ty.	TAT Requested (d	avs):					T	T			IS Re	ques	stea				100005	A - HCL	M Hexane N None		
lidland																		B NaOH C - Zn Acetate	O AsNaO2	[	
ate zip: X, 79701								Ŧ										D Nitric Acid E NaHSO4	Q Na2SO3		
	PO #				11			3									с. С.	F MeOH	R Na2S2O3 S H2SO4		
32-704-5440(TeI) nail	WO #:				- ()			8		ide								H Ascorbic Acid	T TSP Dodecahydr U Acetone	rate	
					orl	ΞĔ		N) d		음							5	I ICE J DIWater	V MCAA		
oject Name: tratojet 31 State Com 8H	Project #:			*****	- <u>X</u>			a l		CH							iner	K EDTA L EDA	Y Trizma	1	
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N03 (890-4863-3)	6/26/23	09 45 Mountain		Solid		x	x	x	x	x							4				
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		Mountain			++	+	<u> </u> -														
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te Since laboratory accreditations are subject to change Eurofins Environmer oratory does not currently maintain accreditation in the State of Origin listed at reditation status should be brought to Eurofins Environment Testing South Ce	nt Testing South Centr bove for analysis/tests entral LLC attention in	ral, LLC places s/matrix being a nmediately If a	the ownership of analyzed the sam all requested acc	f method and oples must be reditations a	alyte & a e shippe re currei	accredit ed back nt to da	tation of to the te, retu	complia Eurofi um the	ance u ns Env signed	ipon oui vironme d Chain	r subcor ent Testi of Cust	itract la ng Sou ody att	borator th Centi esting to	ies. Thi ral LLC osaid co	s samı Iabora omplia	ple sh itory o nce to	ipment r other Eurofi	is forwarded under instructions will be ins Environment Tes	chain-of-custody If the provided Any changes sting South Central LLC	to C	
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eliverable Requested I, II III IV, Other (specify)	Primary Deliver	able Rank	2		s	pecial	Instr	uctio	ns/Q(	C Req	uireme	ents									
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## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 4863 List Number: 1 Creator: Clifton, Cloe

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

List Source: Eurofins Carlsbad

Job Number: 890-4863-1 SDG Number: 03D2024191

List Source: Eurofins Midland

List Creation: 06/28/23 10:43 AM

## Login Sample Receipt Checklist

Client: Ensolum

#### Login Number: 4863 List Number: 2 Creator: Kramer, Jessica

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

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

14



July 13, 2023

Hadlie Green Ensolum, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

**RE: STRATOJET 31** 

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 9:47.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



		ENSOLUM, LLC HADLIE GREEN 705 W WADLEY AVE. MIDLAND TX, 79705 Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 01 4' (H233543-01)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	mg/kg Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	QM-07
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	QM-07
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	122 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	144 9	49.1-14	8						

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\*=Accredited Analyte

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 02 4' (H233543-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	113 %	48.2-13	4						
Surrogate: 1-Chlorooctadecane	133 %	49.1-14	8						

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 03 4' (H233543-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 %	71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	96.0 \$	48.2-13	4						
Surrogate: 1-Chlorooctadecane	114 %	6 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 04 4' (H233543-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	76.0 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	91.69	% 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 05 4' (H233543-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	6 71.5-13	4						
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	96.6 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	121 %	6 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 06 4' (H233543-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	109 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	129 9	49.1-14	8						

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\*=Accredited Analyte

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 07 4' (H233543-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 %	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	125 %	48.2-13	4						
Surrogate: 1-Chlorooctadecane	144 %	49.1-14	8						

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#### \*=Accredited Analyte

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 08 4' (H233543-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/13/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/13/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/13/2023	ND					
Surrogate: 1-Chlorooctane	114 %	6 48.2-13	4						
Surrogate: 1-Chlorooctadecane	135 %	% 49.1-14	8						

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\*=Accredited Analyte

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 09 4' (H233543-09)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	6 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	125 %	6 48.2-13	4						
Surrogate: 1-Chlorooctadecane	143 %	6 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENSOLUM, LLC		
		HADLIE GREEN		
		705 W WADLEY AVE.		
		MIDLAND TX, 79705		
		Fax To:		
Received:	07/12/2023		Sampling Date:	07/12/2023
Reported:	07/13/2023		Sampling Type:	Soil
Project Name:	STRATOJET 31		Sampling Condition:	Cool & Intact
Project Number:	03D2024191		Sample Received By:	Tamara Oldaker
Project Location:	LEA CO NM			

#### Sample ID: FS 10 4' (H233543-10)

BTEX 8021B	mg/	'kg	Analyze						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/12/2023	ND	1.84	92.0	2.00	6.95	
Toluene*	<0.050	0.050	07/12/2023	ND	1.90	95.1	2.00	7.35	
Ethylbenzene*	<0.050	0.050	07/12/2023	ND	1.93	96.3	2.00	7.74	
Total Xylenes*	<0.150	0.150	07/12/2023	ND	5.74	95.7	6.00	8.47	
Total BTEX	<0.300	0.300	07/12/2023	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	% 71.5-13	4						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/12/2023	ND	432	108	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/12/2023	ND	205	103	200	5.13	
DRO >C10-C28*	<10.0	10.0	07/12/2023	ND	222	111	200	6.09	
EXT DRO >C28-C36	<10.0	10.0	07/12/2023	ND					
Surrogate: 1-Chlorooctane	121 9	48.2-13	4						
Surrogate: 1-Chlorooctadecane	138 9	% 49.1-14	8						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 . ... ....

Company Namo	(575) 393-2326 FA	X (5/5) 393-24	10			B	LL TO					AN	ALYSI	S RE	QUES	r	
Project Manager	Ensolum, LLC	1000			P	.0. #: 03	12024	191									
Address: 601 N	Marienfeld St. STE 4	00			c	company:	Ensolu	m									
Address: oot .		State: TX	Zip:	79701	A	ttn: Ha	dlie (	areen									
City: Midiand	557-9995	Fax #:			A	Address: (ø	OINM	arunhu									
Phone #: 130	20074101	Project Owner	E	muloza	c	ity: MI	aland				8						
Project #: 0 Ji	twatoict 3	1		130101	s	State: TX	Zip: 79	101			2						
Project Name:	Les (o. NI	n			F	hone #: 4	32557	6895		_	5						1 1
Project Location	Hadle Gr	PPAN I			F	ax #:				2	W						1 1
FOR LAB USE ONLY	Hadiic Chi		Π	MATR	XIX	PRESERV	. SAM	PLING	3	0	0						
Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS GROUNDWATER WASTEWATER SOIL	SLUDGE	OTHER : ACID/BASE: CICE / COOL	DATE	TIME	A HOLL	P X2TEN	CHLOVEN						
1000070	FSOI	4	C	1 X		X	7/11/2	\$ 0700	X	~	$\sim$				+	+	
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5	FSOS	4		1 X		X		0100	++	++				-			
6	F506	4	11	1 X		- X		0110	++	++		-		-			
7	FSOT	4			_		++	0110	++	++				+			
8	F508	4				$\rightarrow$		0714	++	+	++						
9	FS09	9			_			0719	1		1						
10	FSIO	4	V claim	arising whether based i	1 contract o	or tort, shall be limit	d to the amount ;	aid by the client fo	or the				_				
PLEASE NOTE: Liability an analyses, All claims include	d Damages. Cardinal's liability and on ing those for negligence and any other	cause whatsoever shall be	deemed a withou	waived unless made in t limitation, business inter	writing and ruptions, lo	received by Cardin tes of use, or loss o	al within 30 days a I profits incurred b	iter completion of y client, its subsidi	the applica aries,	Die							
affliates or successors arisi	ing out of or related to the performance	e of services hereunder by (	Cardinal	regardless of whether s	uch claim is	s based upon any o	the above stated	Verbal R	esult:		es 🗆	No A	dd'l Pho	ne #:			
Relinquished B	- See	7-12-23	3	Control pj.		111	K	All Resul	ts are e	maile	d. Pleas	e provid	e Email a	daress:			
nadu	creen	Time: 947	0	MILL	(na	Vila	age	BJenni	ngs@el	nsolum	1.COM						
Relinquished B	y:	Date:	Re	ceived By:			5	REMARK	15:								
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Delivered By: (C Sampler - UPS -	ircle One) O Bus - Other: O	bserved Temp. *C	5.	9 Sample Cool	Conditi ntact Yes	s CHE	CKED BY: nitials)	Turnarou 20 Thermom	eter ID	10: #419 .0.5*C	Stan Rust #/4	dard	Ba Coo /23 []	cteria (o ol Intaci Yes Y No I	nly) Sam t Ob Yes No Co	ple Cond served To rrected 1	emp. °C emp. °C
FUIR MEDI	R 5/2 10/07/21				1.1.	Diag	o omail cl	anges to	elev.k	eene	@cardi	nallabs	m.com				

Page 94 of 110

Released to Imaging: 10/13/2023 2:57:56 PM

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinal



# APPENDIX D

**NMOCD** Notifications

Released to Imaging: 10/13/2023 2:57:56 PM

From:	Buchanan, Michael, EMNRD		
То:	Hadlie Green; Enviro, OCD, EMNRD		
Cc:	<u>Kalei Jennings; Peter Van Patten</u>		
Subject:	RE: [EXTERNAL] COP - Sampling Notification (Week of 6/5/2023)		
Date:	Friday, June 2, 2023 3:54:30 PM		
Attachments:	image005.jpg image006.png image007.png image008.png image009.png		

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

Received.

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.

Mike Buchanan ● Environmental Specialist Environmental Bureau EMNRD - Oil Conservation Division 8801 Horizon Blvd. NE | Albuquerque, NM 87113 | michael.buchanan@emnrd.nm.gov http://www.emnrd.nm.gov/ocd\_



From: Hadlie Green <hgreen@ensolum.com>
Sent: Friday, June 2, 2023 9:18 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kalei Jennings <kjennings@ensolum.com>; Peter Van Patten <pvanpatten@ensolum.com>
Subject: [EXTERNAL] COP - Sampling Notification (Week of 6/5/2023)

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 sampling activities at the following site the week of June 5, 2023.

- Vast State 21H / NAPP2313140440
  - Sampling Date: 6/9/2023 @ 10:00 AM MST
- Stratojet 31 State Com 8H / NAPP2314235805
  - Sampling Date: 6/8/2023 @ 10:00 AM MST

Thank you,



Hadlie Green Project Geologist 432-557-8895 hgreen@ensolum.com Ensolum, LLC

From:	Enviro, OCD, EMNRD		
То:	Hadlie Green		
Cc:	Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD		
Subject:	RE: [EXTERNAL] COP - Sampling Notification (Week of 6/5/2023)		
Date:	Friday, June 9, 2023 9:22:08 AM		
Attachments:	image006.png image007.png image008.png image009.png		

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

Hadlie,

Please be aware that notification requirements are **two business days**, per rule. You may proceed on your schedule. This, and all correspondence, should be included in the closure report to ensure inclusion in the project file.

JΗ

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: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, June 8, 2023 9:15 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kalei Jennings <kjennings@ensolum.com>; Peter Van Patten <pvanpatten@ensolum.com>
Subject: [EXTERNAL] COP - Sampling Notification (Week of 6/5/2023)

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 sampling activities at the following site the week of June 12, 2023.

- Stratojet 31 State Com 8H / NAPP2314235805
  - Sampling Date: 6/12/2023 @ 10:00 AM MST

Thank you,



Enviro, OCD, EMNRD	
Hadlie Green	
Bratcher, Michael, EMNRD; Velez, Nelson, EMNRD	
RE: [EXTERNAL] COP - Sampling Notification (Week of 6/26/2023)	
Wednesday, June 21, 2023 2:44:17 PM	
image005.jpg image006.png image007.png image008.png image009.png	

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

Hadlie,

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.

JΗ

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: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, June 21, 2023 7:38 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kalei Jennings <kjennings@ensolum.com>; Peter Van Patten <pvanpatten@ensolum.com>
Subject: [EXTERNAL] COP - Sampling Notification (Week of 6/26/2023)

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 sampling activities at the following site the week of June 26, 2023.

- Stratojet 31 State Com 8H / NAPP2314235805
  - Sampling Date: 6/26/2023 @ 10:00 AM MST
- Buck Federal CTB / NAPP2315731307

• Sampling Date: 6/29/2023 @ 10:00 AM MST

Thank you,



Hadlie Green Project Geologist 432-557-8895 hgreen@ensolum.com Ensolum, LLC



# APPENDIX E

Final C-141

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	
District RP	
Facility ID	
Application ID	

# **Release Notification**

## **Responsible Party**

Responsible Party	OGRID	
Contact Name	Contact Telephone	
Contact email	Incident # (assigned by OCD)	
Contact mailing address		

## **Location of Release Source**

Latitude	
Dannac	

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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		

Page 2

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?	
release as defined by		
10.15, 20.7(A) NIMA C2		
19.15.29.7(A) NMAC?		
Yes No		
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?		

## **Initial Response**

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

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:

The source of the release has been stopped.

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	Title:
Signature:	Date:
email:	Telephone:
OCD Only	
Received by: Michael Buchanan	Date:

1				1		1	
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	On/Off Pad (dropdown )	Soil Spilled-Fluid Saturation (%.)	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	20.0	5.0	1.0	Off-Pad∽	15.02%	1.48	0.22
Rectangle B				On-Pad∽	10.50%	0.00	0.00
Rectangle C			2	On-Pad∽	10.50%	0.00	0.00
Rectangle D				~		0.00	
Rectangle E				~		0.00	
Rectangle F				~		0.00	
Rectangle G				~		0.00	
Rectangle H				~		0.00	
Rectangle I				~		0.00	
Released to Imaging: 10/1	37202312	:57:56 PN	1	~		0.00	
					Total Su	bsurface Volume Released:	0.22



Total Estimated Contaminated Soil, uncompacted, 25% (yd <sup>3</sup> .)	Current Rule of Thumb - RMR Handover Volume, (yd <sup>3</sup> .)		
0.39			
0.00			
0.00			
0.00			
0.00	750		
0.00	750		
0.00			
0.00	1		
0.00			
0.00	· .		
0.39	BU		

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

Operator: C	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	219366
A	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	None	5/23/2023

Action 219366

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Oil Conservation Division

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 Incident ID
 NAPP2314235805

 District RP

fAPP2204037515

Facility ID Application ID

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?	<u>&gt;50 (ft bgs)</u>
Did this release impact groundwater or surface water?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🛛 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🛛 No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🛛 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🛛 No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🛛 No
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🛛 No
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🛛 No
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🛛 No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	X 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
- $\square$  Depth to water determination
- Determination of water sources and significant watercourses within <sup>1</sup>/<sub>2</sub>-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.

Page 3

Received by OCD: 7/20/2023 10:54:06 AM			Page 108 of 110		
Form C-141	State of New Mexico		Incident ID	NAPP2314235805	
Page 4	Oil Conservation Division		District RP		
			Facility ID	fAPP2204037515	
			Application ID		
regulations all operators are requipublic health or the environment. failed to adequately investigate an addition, OCD acceptance of a Coand/or regulations. Printed Name: <u>Jacob Laird</u> Signature: <u>Jacob Laird</u>	The acceptance of a C-141 report by the acceptance of a C-141 report by the ad remediate contamination that pose a the second report does not relieve the operator of a contamination and report does not relieve the operator of a contamination and contamination are as a contamination are as	tifications and perform co OCD does not relieve the reat to groundwater, surfa f responsibility for comp Title: <u>Environ</u>	prrective actions for relevent operator of liability shows a compared of the second state of the second st	eases which may endanger nould their operations have n or the environment. In ederal, state, or local laws	
email: Jacob.Laird@ConocoP	hillips.com	Telephone:	575-703-5482		
OCD Only Received by:Shelly Wells	-	Date: <u>7/20/2</u>	2023		
Incident ID	NAPP2314235805				
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District RP					
Facility ID	fAPP2204037515				
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@ConocoPhillips.com Telephone: 575-703-5482			
OCD Only			
Received by: <u>Snelly wells</u>	Date: <u>///20/2023</u>		
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: <u>Nelson Velez</u>	Date: 10/13/2023		
Printed Name: Nelson Velez	Title: Environmental Specialist – Adv		

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

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave	229137 Action Number:
Midland, TX 79701	242581 Action Type: [C-141] Release Corrective Action (C-141)

## CONDITIONS

Created	Condition	Condition Date
Ву		
nvelez	None	10/13/2023

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