ENSOLUM

May 5, 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
Ruby Federal
Incident Number NAPP2231448981
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Ruby Federal (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a surface flowline release of crude oil and produced water onto the surrounding pasture. Based on excavation activities and laboratory analytical results from the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting no further action for Incident Number NAPP2231448981.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit N, Section 17, Township 17 South, Range 32 East, in Lea County, New Mexico (32.830273°, -103.791966°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On October 27, 2022, a surface flowline leak resulted in the release of approximately 0.09 barrels (bbls) of crude oil and approximately 8.55 bbls of produced water onto the surrounding pasture. Approximately 0.5 bbls of released produced water were recovered. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on November 10, 2022. The release was assigned Incident Number NAPP2231448981.

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 regional groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well RA 12521 POD1, located approximately 9,058 feet southeast of the Site. The groundwater well has a reported depth to

groundwater of 92 feet bgs and a total depth of 105 feet bgs. Ground surface elevation at the groundwater well location is 4,020 feet above mean sea level (amsl), which is approximately 33 feet higher 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 a stream, located approximately 1.9 miles northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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

On October 27, 2022, Ensolum personnel visited the Site to document the release extent. The release extent was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. Based on visual observations of the release, excavation activities were warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between December 8, 2022, and January 5, 2023, Ensolum personnel were at the Site to oversee excavation activities. Impacted soil was excavated as indicated by visible staining within the release area and field screening results. Excavation activities were performed utilizing a backhoe, transport vehicles, and hand shoveling. To direct excavation activities, soil was screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

Following removal of the 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. Confirmation soil samples FS01 through FS12 were collected from the floor of the excavation at a depth of 4 feet bgs. Confirmation soil samples SW01 through SW07 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4 feet bgs. Additionally, four delineation soil samples (SS01 through SS04) were collected around the release extent from a depth of 0.5 feet bgs, to confirm the lateral extent of the release. The excavation extent, excavation soil sample locations, and delineation soil sample locations were mapped utilizing a handheld

GPS unit and are depicted on Figure 2. Photographic documentation of the excavation activities is included in Appendix B.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analyses of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Lateral delineation soil samples SS01 through SS04 indicated all COC concentrations were compliant with the most stringent Table 1 Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for excavation floor samples FS01, FS06 through FS08, FS10 through FS12, and excavation sidewall samples SW01 through SW07 indicated that all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Laboratory analytical results for excavation floor samples FS02 through FS05 and FS09 indicated that TPH and/or GRO/DRO concentrations exceeded Site Closure Criteria and additional excavation activities were warranted.

Ensolum personnel returned to the Site on April 3, 2023, to oversee additional excavation activities in the areas of floor samples FS02 through FS05 and FS09. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a depth of 4.5 feet bgs. Upon completion of excavation activities, 5-point composite soil samples FS02A through FS05A and FS09A were collected from the floor of the excavation at a depth of 4.5 feet bgs. The soil samples were collected, handled, and analyzed following the same procedure described above.

Laboratory analytical results for soil samples FS02A through FS05A and FS09A indicated that all COC concentrations were compliant with the Site Closure Criteria and reclamation requirement. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix C.

The excavation area measured approximately 2,100 square feet in areal extent. A total of approximately 375 cubic yards of impacted soil was removed, transported, and properly disposed of at R360 Environmental Solutions in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the October 27, 2022, release of crude oil and produced water. Laboratory analytical results for the final excavation soil samples indicated concentrations of all COCs were compliant with the Site Closure Criteria and reclamation requirement. Based on the laboratory analytical results, no further remediation was required. Maverick will backfill the excavation with material purchased locally, recontour the Site to match pre-existing site conditions, and re-seed the disturbed area with the appropriate BLM seed mixture during the next possible growing season for optimal vegetation growth.

Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, Maverick respectfully requests closure for Incident Number NAPP2231448981. The Final C-141 is included in Appendix E.

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

Sincerely,
Ensolum, LLC

Kalei Jennings
Senior Scientist

Aimee Cole
Senior Managing Scientist

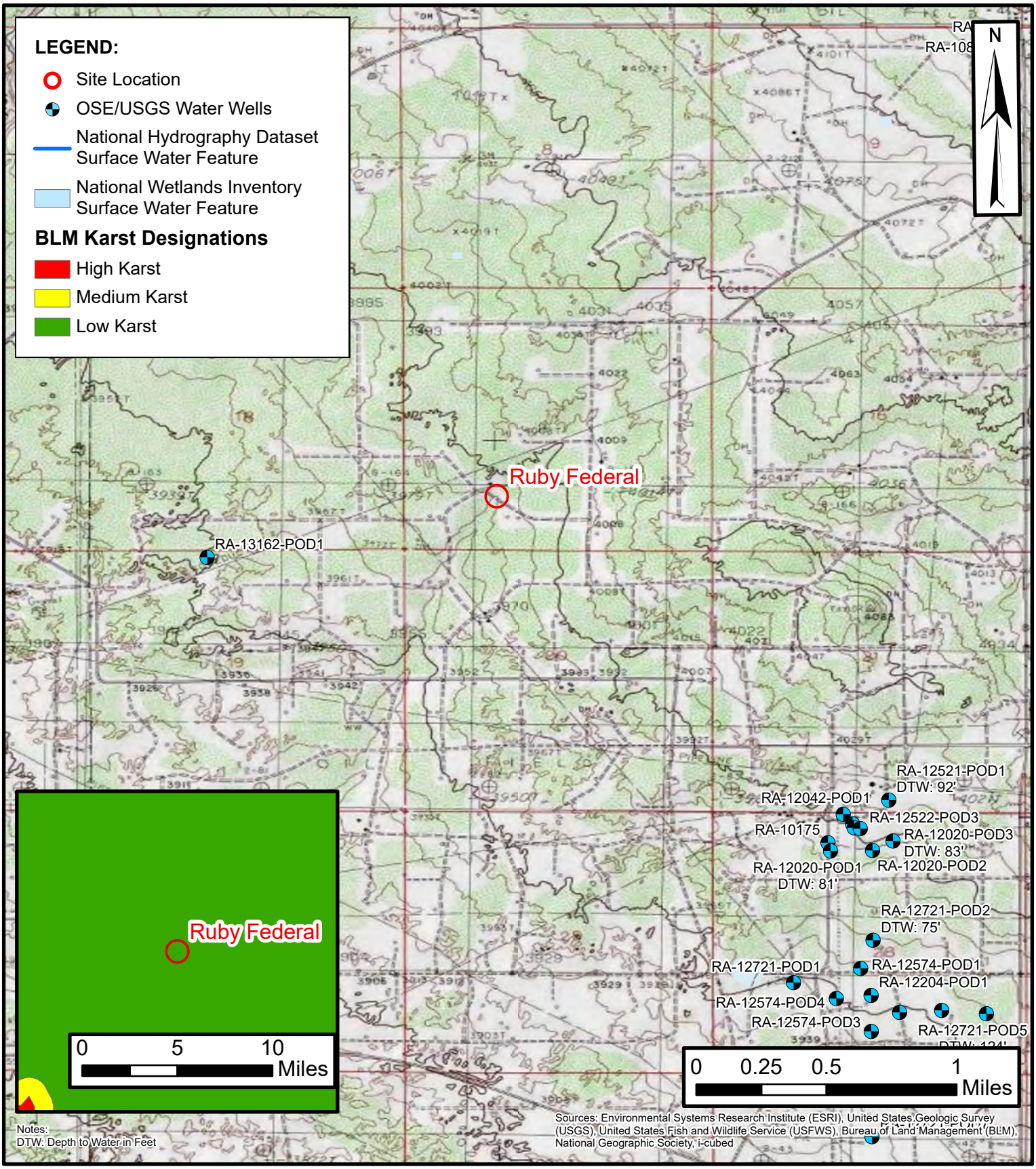
cc: Bryce Wagoner, Maverick Permian, LLC
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	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

ENSOLUM

FIGURES



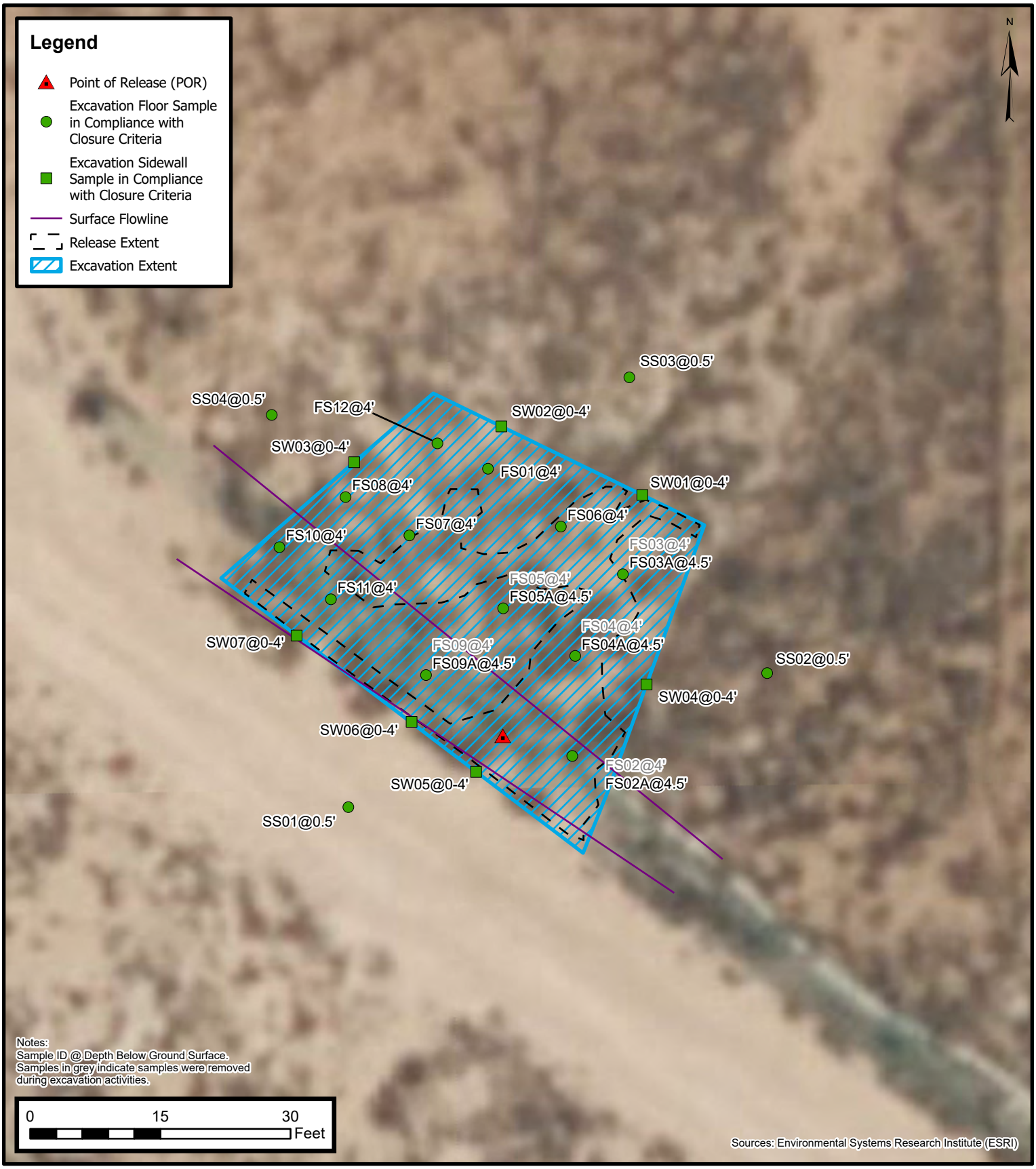
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

SITE RECEPTOR MAP

Maverick Permian, LLC
Ruby Federal
Incident Number: NAPP2231448981
Unit **N**, Sec 17, T17S, R32E
Lea County, New Mexico

FIGURE

1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

Maverick Permian, LLC
Ruby Federal
Incident Number: NAPP2231448981
Unit N, Sec 17, T17S, R32E
Lea County, New Mexico

FIGURE
2

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Ruby Federal
Maverick Permian, 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 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Excavation Soil Samples										
FS01	12/08/2022	4	<0.00200	<0.00399	<49.9	53.6	<49.9	53.6	53.6	15.8
FS02	12/19/2022	4	<0.00200	0.0182	<49.9	1990	<49.9	**1,990**	1,990	1,770
FS02A	04/03/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS03	12/28/2022	4	<0.00201	<0.00402	<49.9	1430	<49.9	**1,430**	1,430	116
FS03A	04/03/2012	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS04	12/28/2022	4	<0.00200	<0.00401	<49.9	2070	<49.9	**2,070**	2,070	244
FS04A	04/12/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS05	12/28/2022	4	<0.00199	0.106	<250	4,530	<250	**4,530**	**4,530**	4,320
FS05A	04/03/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
FS06	12/28/2022	4	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	41.4
FS07	12/28/2022	4	<0.00199	0.0388	<49.9	89.1	<49.9	89.1	89.1	25.4
FS08	12/28/2022	4	<0.00199	<0.00398	<50.0	97.6	<50.0	97.6	97.6	18.6
FS09	12/28/2022	4	<0.0998	29.5	937	7,830	<250	**8,767**	**8,770**	4,980
FS09A	04/03/2023	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
FS10	12/28/2022	4	<0.0996	1.27	<50.0	94.6	<50.0	94.6	94.6	13.2
FS11	01/05/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	164
FS12	01/05/2023	4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	550
Sidewall Soil Samples										
SW01	12/08/2022	0 - 4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	12.7*
SW02	12/08/2022	0 - 4	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	<5.05*
SW03	12/08/2022	0 - 4	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	<5.04*
SW04	12/08/2022	0 - 4	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	197*
SW05	12/08/2022	0 - 4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	593*
SW06	01/05/2023	0 - 4	<0.00200	<0.00401	<50.0	74.8	<50.0	74.8	74.8	534*
SW07	01/05/2023	0 - 4	<0.00199	<0000398	<49.9	<49.9	<49.9	<49.9	<49.9	426*
Deliniation Soil Samples										
SS01	05/01/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*
SS02	05/01/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0*
SS03	05/01/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0*
SS04	05/01/2023	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0*

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMAC: New Mexico Administrative Code
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
*Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.*
Grey text represents samples that have been excavated
** - indicates sample locations where the reclamation requipment was applied*

ENSOLUM

APPENDIX A

Referenced Well Records

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	RA 12521 POD1	3	3	4	21	17S	32E	615127	3631271

Driller License: 1456 **Driller Company:** WHITE DRILLING COMPANY

Driller Name: WHITE, JOHN W

Drill Start Date: 07/21/2017 **Drill Finish Date:** 07/26/2017 **Plug Date:**

Log File Date: 08/22/2017 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 2.00 **Depth Well:** 105 feet **Depth Water:** 92 feet

Water Bearing Stratifications:	Top	Bottom	Description
	85	101	Sandstone/Gravel/Conglomerate
	101	105	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	75	105

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 325028103441301

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

USGS 325028103441301 17S.32E.11.34332

Lea County, New Mexico
Latitude 32°50'32", Longitude 103°44'24" NAD27
Land-surface elevation 4,095.50 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

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

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1961-03-10		D	62610		4046.17	NGVD29	1	Z			A
1961-03-10		D	62611		4047.80	NAVD88	1	Z			A
1961-03-10		D	72019	49.33			1	Z			A
1968-07-23		D	62610		4046.16	NGVD29	1	Z			A
1968-07-23		D	62611		4047.79	NAVD88	1	Z			A
1968-07-23		D	72019	49.34			1	Z			A
1971-02-08		D	62610		4048.39	NGVD29	1	Z			A
1971-02-08		D	62611		4050.02	NAVD88	1	Z			A
1971-02-08		D	72019	47.11			1	Z			A
1976-03-01		D	62610		4046.82	NGVD29	1	Z			A
1976-03-01		D	62611		4048.45	NAVD88	1	Z			A
1976-03-01		D	72019	48.68			1	Z			A
1981-01-28		D	62610		4046.27	NGVD29	1	Z			A
1981-01-28		D	62611		4047.90	NAVD88	1	Z			A
1981-01-28		D	72019	49.23			1	Z			A
1986-04-02		D	62610		4048.12	NGVD29	1	Z			A
1986-04-02		D	62611		4049.75	NAVD88	1	Z			A
1986-04-02		D	72019	47.38			1	Z			A
1990-12-07		D	62610		4047.50	NGVD29	1	Z			A
1990-12-07		D	62611		4049.13	NAVD88	1	Z			A
1990-12-07		D	72019	48.00			1	Z			A
1996-02-20		D	62610		4047.36	NGVD29	1	S			A
1996-02-20		D	62611		4048.99	NAVD88	1	S			A
1996-02-20		D	72019	48.14			1	S			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet

Section	Code	Description
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
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2022-12-05 16:16:31 EST
0.28 0.25 nadww01

ENSOLUM

APPENDIX B

Photographic Log

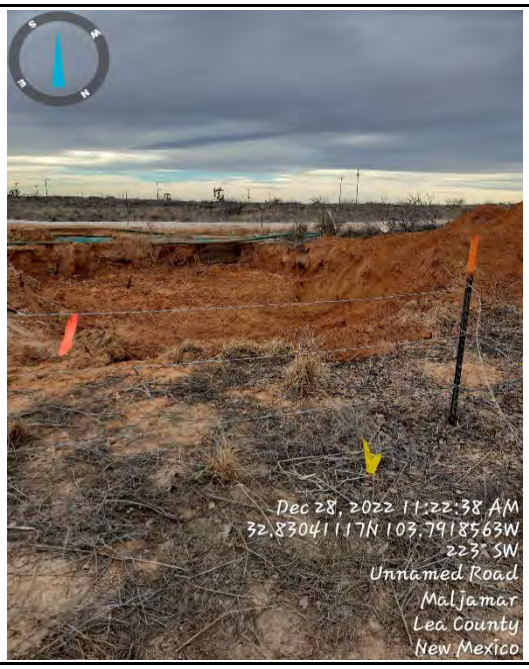
ENSOLUM

Photographic Log
Maverick Permian, LLC
Ruby Federal
Incident Number NAPP2231448981

Photograph 1 Date: 11/30/2023
Description: View of Release Area.

Photograph 2 Date: 11/30/2023
Description: View of Release Area.

Photograph 3 Date: 12/19/2023
Description: View of ongoing excavation activities.



Photograph 4 Date: 12/28/2023
Description: View of ongoing excavation activities.

ENSOLUM

APPENDIX C

Laboratory Analytical Results

& Chain-of-Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/23/2022 9:48:10 PM

JOB DESCRIPTION

Ruby Federal
SDG NUMBER 03D2057036

JOB NUMBER

890-3612-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

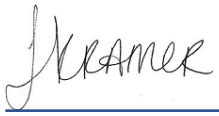
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/23/2022 9:48:10 PM

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

Client: Ensolum
Project/Site: Ruby Federal

Laboratory Job ID: 890-3612-1
SDG: 03D2057036

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Qualifiers

GC VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Job ID: 890-3612-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3612-1

Receipt
The samples were received on 12/8/2022 3:46 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-3612-1) and SW01 (890-3612-2).

GC VOA
Method 8021B: The following samples were analyzed outside of analytical holding time due to instrument failure: FS01 (890-3612-1) and SW01 (890-3612-2).

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 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3605-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Client Sample ID: FS01

Lab Sample ID: 890-3612-1
Matrix: Solid
Date Collected: 12/08/22 12:10
Date Received: 12/08/22 15:46
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U H	0.00200		mg/Kg		12/22/22 09:05	12/23/22 11:17	1
Toluene	<0.00200	U H	0.00200		mg/Kg		12/22/22 09:05	12/23/22 11:17	1
Ethylbenzene	<0.00200	U H	0.00200		mg/Kg		12/22/22 09:05	12/23/22 11:17	1
m-Xylene & p-Xylene	<0.00399	U H	0.00399		mg/Kg		12/22/22 09:05	12/23/22 11:17	1
o-Xylene	<0.00200	U H	0.00200		mg/Kg		12/22/22 09:05	12/23/22 11:17	1
Xylenes, Total	<0.00399	U H	0.00399		mg/Kg		12/22/22 09:05	12/23/22 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/22/22 09:05*	*12/23/22 11:17*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*12/22/22 09:05*	*12/23/22 11:17*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			12/23/22 17:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**53.6**		49.9		mg/Kg			12/14/22 12:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/12/22 11:03	12/13/22 23:54	1
Diesel Range Organics (Over C10-C28)	**53.6**		49.9		mg/Kg		12/12/22 11:03	12/13/22 23:54	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/12/22 11:03	12/13/22 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/12/22 11:03*	*12/13/22 23:54*	*1*
o-Terphenyl	*99*		*70 - 130*	*12/12/22 11:03*	*12/13/22 23:54*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**15.8**		4.99		mg/Kg			12/16/22 05:30	1

Client Sample ID: SW01

Lab Sample ID: 890-3612-2
Matrix: Solid
Date Collected: 12/08/22 12:30
Date Received: 12/08/22 15:46
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U H	0.00199		mg/Kg		12/22/22 09:05	12/23/22 11:38	1
Toluene	<0.00199	U H	0.00199		mg/Kg		12/22/22 09:05	12/23/22 11:38	1
Ethylbenzene	<0.00199	U H	0.00199		mg/Kg		12/22/22 09:05	12/23/22 11:38	1
m-Xylene & p-Xylene	<0.00398	U H	0.00398		mg/Kg		12/22/22 09:05	12/23/22 11:38	1
o-Xylene	<0.00199	U H	0.00199		mg/Kg		12/22/22 09:05	12/23/22 11:38	1
Xylenes, Total	<0.00398	U H	0.00398		mg/Kg		12/22/22 09:05	12/23/22 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*12/22/22 09:05*	*12/23/22 11:38*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Client Sample ID: SW01
Date Collected: 12/08/22 12:30
Date Received: 12/08/22 15:46
Sample Depth: 0 - 4

Lab Sample ID: 890-3612-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*12/22/22 09:05*	*12/23/22 11:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/23/22 17:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			12/14/22 12:15	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/14/22 00:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/14/22 00:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/14/22 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*12/12/22 11:03*	*12/14/22 00:16*	*1*
o-Terphenyl	*120*		*70 - 130*	*12/12/22 11:03*	*12/14/22 00:16*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**12.7**		4.97		mg/Kg			12/16/22 05:37	1

Surrogate Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-22829-A-1-L MS	Matrix Spike	112	118										
880-22829-A-1-M MSD	Matrix Spike Duplicate	110	125										
890-3612-1	FS01	115	97										
890-3612-2	SW01	112	94										
LCS 880-42482/1-A	Lab Control Sample	111	123										
LCSD 880-42482/2-A	Lab Control Sample Dup	114	122										
MB 880-42465/39	Method Blank	87	99										
MB 880-42482/5-A	Method Blank	85	103										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-3605-A-1-C MS	Matrix Spike	104	91										
890-3605-A-1-D MSD	Matrix Spike Duplicate	94	93										
890-3612-1	FS01	103	99										
890-3612-2	SW01	126	120										
LCS 880-41626/2-A	Lab Control Sample	102	116										
LCSD 880-41626/3-A	Lab Control Sample Dup	114	127										
MB 880-41626/1-A	Method Blank	152 S1+	207 S1+										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42465/39
Matrix: Solid
Analysis Batch: 42465

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg			12/22/22 22:16	1
Toluene	<0.00200	U	0.00200		mg/Kg			12/22/22 22:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg			12/22/22 22:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg			12/22/22 22:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg			12/22/22 22:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg			12/22/22 22:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*12/22/22 22:16*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*		*12/22/22 22:16*	*1*

Lab Sample ID: MB 880-42482/5-A
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42482

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:05	12/23/22 08:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:05	12/23/22 08:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:05	12/23/22 08:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 09:05	12/23/22 08:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 09:05	12/23/22 08:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 09:05	12/23/22 08:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*	*12/22/22 09:05*	*12/23/22 08:53*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/22/22 09:05*	*12/23/22 08:53*	*1*

Lab Sample ID: LCS 880-42482/1-A
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42482

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09914		mg/Kg		99	70 - 130		
Toluene			0.100	0.09794		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.1029		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.2180		mg/Kg		109	70 - 130		
o-Xylene			0.100	0.1087		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*

Lab Sample ID: LCSD 880-42482/2-A
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42482

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1015		mg/Kg		102	70 - 130	2	35

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

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

Lab Sample ID: LCSD 880-42482/2-A
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42482

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09837		mg/Kg		98	70 - 130	0	35
Ethylbenzene			0.100	0.1044		mg/Kg		104	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.2235		mg/Kg		112	70 - 130	3	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*

Lab Sample ID: 880-22829-A-1-L MS
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42482

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0998	0.1044		mg/Kg		105	70 - 130
Toluene	<0.00201	U	0.0998	0.1011		mg/Kg		101	70 - 130
Ethylbenzene	<0.00201	U	0.0998	0.1032		mg/Kg		103	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2218		mg/Kg		111	70 - 130
o-Xylene	<0.00201	U	0.0998	0.1108		mg/Kg		111	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*

Lab Sample ID: 880-22829-A-1-M MSD
Matrix: Solid
Analysis Batch: 42465

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42482

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.100	0.1133		mg/Kg		113	70 - 130	8	35
Toluene	<0.00201	U	0.100	0.1086		mg/Kg		108	70 - 130	7	35
Ethylbenzene	<0.00201	U	0.100	0.1091		mg/Kg		109	70 - 130	6	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2339		mg/Kg		117	70 - 130	5	35
o-Xylene	<0.00201	U	0.100	0.1174		mg/Kg		117	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*125*		*70 - 130*

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

Lab Sample ID: MB 880-41626/1-A
Matrix: Solid
Analysis Batch: 41693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41626

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/13/22 19:51	1

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

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

Lab Sample ID: MB 880-41626/1-A
Matrix: Solid
Analysis Batch: 41693

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41626

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/13/22 19:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/12/22 11:03	12/13/22 19:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*152*	*S1+*	*70 - 130*	*12/12/22 11:03*	*12/13/22 19:51*	*1*
o-Terphenyl	*207*	*S1+*	*70 - 130*	*12/12/22 11:03*	*12/13/22 19:51*	*1*

Lab Sample ID: LCS 880-41626/2-A
Matrix: Solid
Analysis Batch: 41693

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41626

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	811.3		mg/Kg		81	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	825.1		mg/Kg		83	70 - 130		

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

Lab Sample ID: LCSD 880-41626/3-A
Matrix: Solid
Analysis Batch: 41693

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41626

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	928.5		mg/Kg		93	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	910.5		mg/Kg		91	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*127*		*70 - 130*

Lab Sample ID: 890-3605-A-1-C MS
Matrix: Solid
Analysis Batch: 41693

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41626

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	939.4		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1020		mg/Kg		102	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*91*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

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

Lab Sample ID: 890-3605-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41693 — **Prep Batch: 41626**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	910.9		mg/Kg		89	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1037		mg/Kg		104	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*94*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41945

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/16/22 02:07	1

Lab Sample ID: LCS 880-41479/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41945

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	253.5		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-41479/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41945

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	251.3		mg/Kg		101	90 - 110	1	20

Lab Sample ID: 880-22542-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41945

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	30.6		249	288.2		mg/Kg		103	90 - 110		

Lab Sample ID: 880-22542-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 41945

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	30.6		249	288.7		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

GC VOA

Analysis Batch: 42465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	8021B	42482
890-3612-2	SW01	Total/NA	Solid	8021B	42482
MB 880-42465/39	Method Blank	Total/NA	Solid	8021B	
MB 880-42482/5-A	Method Blank	Total/NA	Solid	8021B	42482
LCS 880-42482/1-A	Lab Control Sample	Total/NA	Solid	8021B	42482
LCSD 880-42482/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42482
880-22829-A-1-L MS	Matrix Spike	Total/NA	Solid	8021B	42482
880-22829-A-1-M MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42482

Prep Batch: 42482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	5035	
890-3612-2	SW01	Total/NA	Solid	5035	
MB 880-42482/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42482/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42482/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22829-A-1-L MS	Matrix Spike	Total/NA	Solid	5035	
880-22829-A-1-M MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	Total BTEX	
890-3612-2	SW01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	8015NM Prep	
890-3612-2	SW01	Total/NA	Solid	8015NM Prep	
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	8015B NM	41626
890-3612-2	SW01	Total/NA	Solid	8015B NM	41626
MB 880-41626/1-A	Method Blank	Total/NA	Solid	8015B NM	41626
LCS 880-41626/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41626
LCSD 880-41626/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41626
890-3605-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41626
890-3605-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41626

Analysis Batch: 41816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Total/NA	Solid	8015 NM	
890-3612-2	SW01	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

HPLC/IC

Leach Batch: 41479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Soluble	Solid	DI Leach	
890-3612-2	SW01	Soluble	Solid	DI Leach	
MB 880-41479/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-22542-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-22542-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 41945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3612-1	FS01	Soluble	Solid	300.0	41479
890-3612-2	SW01	Soluble	Solid	300.0	41479
MB 880-41479/1-A	Method Blank	Soluble	Solid	300.0	41479
LCS 880-41479/2-A	Lab Control Sample	Soluble	Solid	300.0	41479
LCSD 880-41479/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41479
880-22542-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	41479
880-22542-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41479

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Client Sample ID: FS01

Date Collected: 12/08/22 12:10
Date Received: 12/08/22 15:46

Lab Sample ID: 890-3612-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42482	12/22/22 09:05	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42465	12/23/22 11:17	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42577	12/23/22 17:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			41816	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/13/22 23:54	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 05:30	CH	EET MID

Client Sample ID: SW01

Date Collected: 12/08/22 12:30
Date Received: 12/08/22 15:46

Lab Sample ID: 890-3612-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42482	12/22/22 09:05	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42465	12/23/22 11:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42577	12/23/22 17:12	AJ	EET MID
Total/NA	Analysis	8015 NM		1			41816	12/14/22 12:15	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	41626	12/12/22 11:03	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41693	12/14/22 00:16	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41479	12/09/22 13:24	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	41945	12/16/22 05:37	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3612-1
SDG: 03D2057036

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3612-1	FS01	Solid	12/08/22 12:10	12/08/22 15:46	4
890-3612-2	SW01	Solid	12/08/22 12:30	12/08/22 15:46	0 - 4

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437 Email:	kjennings@ensolum.com, jadams@ensolum.com	

Work Order Comments

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

Project Name:	Rilley Federal	Turn Around	
Project Number:	03D2057036	☑ Routine ☐ Rush	
Project Location:	32.8302, -103.7919	Due Date:	
Sampler's Name:	Julianna Falcomata	TAT starts the day received by the lab, if received by 4.30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	Thermo07
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.4
Total Containers:		Corrected Temperature:	2.2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS01	S	12-8-22	1210	4'	C	1		X	X	X
SW01	S	12-8-22	1230	0-4'	C	1		X	X	X

890-3612 Chain of Custody

Preservative Codes

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

Sample Comments

nAPP2230442646

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Cloe Cey	12.8.22 1546	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3612-1
SDG Number: 03D2057036

Login Number: 3612
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3612-1
SDG Number: 03D2057036

Login Number: 3612
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/12/22 08:01 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/29/2022 1:23:39 PM

JOB DESCRIPTION

Ruby Federal
SDG NUMBER 32.210278,-103.72500

JOB NUMBER

890-3682-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

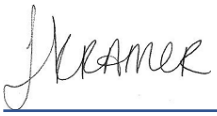
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
12/29/2022 1:23:39 PM

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

Client: Ensolum
Project/Site: Ruby Federal

Laboratory Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3682-1
Project/Site: Ruby Federal SDG: 32.210278,-103.72500

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
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
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Job ID: 890-3682-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3682-1

Receipt
The samples were received on 12/19/2022 4:16 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS02 (890-3682-1) and FS03 (890-3682-2).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42724 and analytical batch 880-42777 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-42467 and analytical batch 880-42459 was outside the upper control limits.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-42831 and analytical batch 880-42773 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 8015MOD_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-42831 and analytical batch 880-42773 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

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 880-42386 and analytical batch 880-42572 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Client Sample ID: FS02

Lab Sample ID: 890-3682-1
Matrix: Solid
Date Collected: 12/19/22 12:30
Date Received: 12/19/22 16:16
Sample Depth: 4"

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 03:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 03:48	1
Ethylbenzene	**0.00639**		0.00200		mg/Kg		12/27/22 14:04	12/29/22 03:48	1
m-Xylene & p-Xylene	**0.00677**		0.00401		mg/Kg		12/27/22 14:04	12/29/22 03:48	1
o-Xylene	**0.00503**		0.00200		mg/Kg		12/27/22 14:04	12/29/22 03:48	1
Xylenes, Total	**0.0118**		0.00401		mg/Kg		12/27/22 14:04	12/29/22 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*12/27/22 14:04*	*12/29/22 03:48*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*12/27/22 14:04*	*12/29/22 03:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0182**		0.00401		mg/Kg			12/29/22 11:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1990**		49.9		mg/Kg			12/27/22 11:28	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/22/22 07:58	12/22/22 18:24	1
Diesel Range Organics (Over C10-C28)	**1990**		49.9		mg/Kg		12/22/22 07:58	12/22/22 18:24	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/22/22 07:58	12/22/22 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*12/22/22 07:58*	*12/22/22 18:24*	*1*
1-Chlorooctane	*89*		*70 - 130*	*12/22/22 07:58*	*12/22/22 18:46*	*1*
o-Terphenyl	*83*		*70 - 130*	*12/22/22 07:58*	*12/22/22 18:24*	*1*
o-Terphenyl	*84*		*70 - 130*	*12/22/22 07:58*	*12/22/22 18:46*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1770**		25.0		mg/Kg			12/23/22 18:41	5

Client Sample ID: FS03

Lab Sample ID: 890-3682-2
Matrix: Solid
Date Collected: 12/19/22 14:00
Date Received: 12/19/22 16:16
Sample Depth: 4"

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		12/27/22 14:04	12/29/22 04:09	1
Toluene	<0.00202	U	0.00202		mg/Kg		12/27/22 14:04	12/29/22 04:09	1
Ethylbenzene	**0.00580**		0.00202		mg/Kg		12/27/22 14:04	12/29/22 04:09	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		12/27/22 14:04	12/29/22 04:09	1
o-Xylene	**0.00441**		0.00202		mg/Kg		12/27/22 14:04	12/29/22 04:09	1
Xylenes, Total	**0.00441**		0.00403		mg/Kg		12/27/22 14:04	12/29/22 04:09	1

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Client Sample ID: FS03

Date Collected: 12/19/22 14:00
Date Received: 12/19/22 16:16
Sample Depth: 4"

Lab Sample ID: 890-3682-2

Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*12/27/22 14:04*	*12/29/22 04:09*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*12/27/22 14:04*	*12/29/22 04:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0102**		0.00403	mg/Kg			12/29/22 11:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**3750**		249	mg/Kg			12/29/22 13:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<249	U *1	249	mg/Kg		12/28/22 17:11	12/29/22 08:49	5
Diesel Range Organics (Over C10-C28)	**3310**		249	mg/Kg		12/28/22 17:11	12/29/22 08:49	5
Oil Range Organics (Over C28-C36)	**438**		249	mg/Kg		12/28/22 17:11	12/29/22 08:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*240*	*S1+*	*70 - 130*	*12/28/22 17:11*	*12/29/22 08:49*	*5*
o-Terphenyl	*264*	*S1+*	*70 - 130*	*12/28/22 17:11*	*12/29/22 08:49*	*5*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2610**		24.8	mg/Kg			12/23/22 18:46	5

Surrogate Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-22914-A-1-B MS	Matrix Spike	99	103
880-22914-A-1-C MSD	Matrix Spike Duplicate	105	108
890-3682-1	FS02	81	81
890-3682-2	FS03	105	102
LCS 880-42724/1-A	Lab Control Sample	99	103
LCSD 880-42724/2-A	Lab Control Sample Dup	99	108
MB 880-42718/5-A	Method Blank	95	108
MB 880-42724/5-A	Method Blank	96	106

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-23018-A-1-D MS	Matrix Spike	118	94
880-23018-A-1-E MSD	Matrix Spike Duplicate	119	93
880-23046-A-1-I MS	Matrix Spike	113	110
880-23046-A-1-J MSD	Matrix Spike Duplicate	98	96
890-3682-1	FS02	88	83
890-3682-1	FS02	89	84
890-3682-2	FS03	240 S1+	264 S1+
LCS 880-42467/2-A	Lab Control Sample	106	117
LCS 880-42831/2-A	Lab Control Sample	104	115
LCSD 880-42467/3-A	Lab Control Sample Dup	106	99
LCSD 880-42831/3-A	Lab Control Sample Dup	92	105
MB 880-42467/1-A	Method Blank	142 S1+	141 S1+
MB 880-42831/1-A	Method Blank	105	116

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42718/5-A
Matrix: Solid
Analysis Batch: 42777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42718

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/27/22 13:34	12/28/22 12:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/27/22 13:34	12/28/22 12:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/27/22 13:34	12/28/22 12:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/27/22 13:34	12/28/22 12:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/27/22 13:34	12/28/22 12:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/27/22 13:34	12/28/22 12:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*12/27/22 13:34*	*12/28/22 12:38*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*12/27/22 13:34*	*12/28/22 12:38*	*1*

Lab Sample ID: MB 880-42724/5-A
Matrix: Solid
Analysis Batch: 42777

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42724

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 00:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 00:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 00:36	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/27/22 14:04	12/29/22 00:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/27/22 14:04	12/29/22 00:36	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/27/22 14:04	12/29/22 00:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*12/27/22 14:04*	*12/29/22 00:36*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/27/22 14:04*	*12/29/22 00:36*	*1*

Lab Sample ID: LCS 880-42724/1-A
Matrix: Solid
Analysis Batch: 42777

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42724

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1018		mg/Kg		102	70 - 130		
Toluene			0.100	0.09269		mg/Kg		93	70 - 130		
Ethylbenzene			0.100	0.09125		mg/Kg		91	70 - 130		
m-Xylene & p-Xylene			0.200	0.1875		mg/Kg		94	70 - 130		
o-Xylene			0.100	0.09108		mg/Kg		91	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 880-42724/2-A
Matrix: Solid
Analysis Batch: 42777

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42724

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09175		mg/Kg		92	70 - 130	10	35

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

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

Lab Sample ID: LCSD 880-42724/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42777 — **Prep Batch: 42724**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08529		mg/Kg		85	70 - 130	8	35
Ethylbenzene			0.100	0.08200		mg/Kg		82	70 - 130	11	35
m-Xylene & p-Xylene			0.200	0.1694		mg/Kg		85	70 - 130	10	35
o-Xylene			0.100	0.08393		mg/Kg		84	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-22914-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42777 — **Prep Batch: 42724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.101	0.03759	F1	mg/Kg		37	70 - 130
Toluene	<0.00201	U F2 F1	0.101	0.03465	F1	mg/Kg		34	70 - 130
Ethylbenzene	<0.00201	U F2 F1	0.101	0.03505	F1	mg/Kg		35	70 - 130
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.202	0.07396	F1	mg/Kg		37	70 - 130
o-Xylene	<0.00201	U F2 F1	0.101	0.03896	F1	mg/Kg		39	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 880-22914-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42777 — **Prep Batch: 42724**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	0.05892	F2 F1	mg/Kg		60	70 - 130	44	35
Toluene	<0.00201	U F2 F1	0.0990	0.05349	F2 F1	mg/Kg		54	70 - 130	43	35
Ethylbenzene	<0.00201	U F2 F1	0.0990	0.05150	F2 F1	mg/Kg		52	70 - 130	38	35
m-Xylene & p-Xylene	<0.00402	U F2 F1	0.198	0.1100	F2 F1	mg/Kg		56	70 - 130	39	35
o-Xylene	<0.00201	U F2 F1	0.0990	0.05686	F2 F1	mg/Kg		57	70 - 130	37	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

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

Lab Sample ID: MB 880-42467/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42459 — **Prep Batch: 42467**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/22/22 07:58	12/22/22 08:06	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

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

Lab Sample ID: MB 880-42467/1-A
Matrix: Solid
Analysis Batch: 42459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42467

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/22/22 07:58	12/22/22 08:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/22/22 07:58	12/22/22 08:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*12/22/22 07:58*	*12/22/22 08:06*	*1*
o-Terphenyl	*141*	*S1+*	*70 - 130*	*12/22/22 07:58*	*12/22/22 08:06*	*1*

Lab Sample ID: LCS 880-42467/2-A
Matrix: Solid
Analysis Batch: 42459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42467

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1044		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1016		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: LCSD 880-42467/3-A
Matrix: Solid
Analysis Batch: 42459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42467

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	899.3		mg/Kg		90	70 - 130	15	20
Diesel Range Organics (Over C10-C28)			1000	881.2		mg/Kg		88	70 - 130	14	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*106*		*70 - 130*
o-Terphenyl	*99*		*70 - 130*

Lab Sample ID: 880-23018-A-1-D MS
Matrix: Solid
Analysis Batch: 42459

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1193		mg/Kg		116	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	981.3		mg/Kg		98	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

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

Lab Sample ID: 880-23018-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42459 — **Prep Batch: 42467**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1200		mg/Kg		117	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	976.0		mg/Kg		98	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*119*		*70 - 130*
o-Terphenyl	*93*		*70 - 130*

Lab Sample ID: MB 880-42831/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42773 — **Prep Batch: 42831**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/28/22 17:11	12/29/22 03:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/28/22 17:11	12/29/22 03:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/28/22 17:11	12/29/22 03:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*12/28/22 17:11*	*12/29/22 03:03*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/28/22 17:11*	*12/29/22 03:03*	*1*

Lab Sample ID: LCS 880-42831/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42773 — **Prep Batch: 42831**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1002		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1077		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-42831/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42773 — **Prep Batch: 42831**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	767.2	*1	mg/Kg		77	70 - 130	27	20
Diesel Range Organics (Over C10-C28)			1000	982.8		mg/Kg		98	70 - 130	9	20

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

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

Lab Sample ID: LCSD 880-42831/3-A
Matrix: Solid
Analysis Batch: 42773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42831

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: 880-23046-A-1-I MS
Matrix: Solid
Analysis Batch: 42773

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 42831

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	1173		mg/Kg		113	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1351	F1	mg/Kg		132	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	110		70 - 130

Lab Sample ID: 880-23046-A-1-J MSD
Matrix: Solid
Analysis Batch: 42773

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 42831

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	1034		mg/Kg		99	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	1204		mg/Kg		117	70 - 130	11	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	96		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42386/1-A
Matrix: Solid
Analysis Batch: 42572

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/23/22 17:27	1

Lab Sample ID: LCS 880-42386/2-A
Matrix: Solid
Analysis Batch: 42572

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	241.3		mg/Kg		97	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-42386/3-A
Matrix: Solid
Analysis Batch: 42572

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	268.9		mg/Kg		108	90 - 110	11	20

Lab Sample ID: 880-22954-A-1-E MS
Matrix: Solid
Analysis Batch: 42572

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	280	F1	250	495.4	F1	mg/Kg		86	90 - 110		

Lab Sample ID: 880-22954-A-1-F MSD
Matrix: Solid
Analysis Batch: 42572

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	280	F1	250	522.1		mg/Kg		97	90 - 110	5	20

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

GC VOA

Prep Batch: 42718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42718/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 42724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	5035	
890-3682-2	FS03	Total/NA	Solid	5035	
MB 880-42724/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42724/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42724/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-22914-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-22914-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 42777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	8021B	42724
890-3682-2	FS03	Total/NA	Solid	8021B	42724
MB 880-42718/5-A	Method Blank	Total/NA	Solid	8021B	42718
MB 880-42724/5-A	Method Blank	Total/NA	Solid	8021B	42724
LCS 880-42724/1-A	Lab Control Sample	Total/NA	Solid	8021B	42724
LCSD 880-42724/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42724
880-22914-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	42724
880-22914-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	42724

Analysis Batch: 42879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	Total BTEX	
890-3682-2	FS03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 42459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	8015B NM	42467
890-3682-1	FS02	Total/NA	Solid	8015B NM	42467
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015B NM	42467
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42467
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42467
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	42467
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42467

Prep Batch: 42467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	8015NM Prep	
890-3682-1	FS02	Total/NA	Solid	8015NM Prep	
MB 880-42467/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42467/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42467/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23018-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23018-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

GC Semi VOA

Analysis Batch: 42697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Total/NA	Solid	8015 NM	
890-3682-2	FS03	Total/NA	Solid	8015 NM	

Analysis Batch: 42773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-2	FS03	Total/NA	Solid	8015B NM	42831
MB 880-42831/1-A	Method Blank	Total/NA	Solid	8015B NM	42831
LCS 880-42831/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	42831
LCSD 880-42831/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	42831
880-23046-A-1-I MS	Matrix Spike	Total/NA	Solid	8015B NM	42831
880-23046-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	42831

Prep Batch: 42831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-2	FS03	Total/NA	Solid	8015NM Prep	
MB 880-42831/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-42831/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-42831/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23046-A-1-I MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23046-A-1-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 42386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Soluble	Solid	DI Leach	
890-3682-2	FS03	Soluble	Solid	DI Leach	
MB 880-42386/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42386/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42386/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-22954-A-1-E MS	Matrix Spike	Soluble	Solid	DI Leach	
880-22954-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3682-1	FS02	Soluble	Solid	300.0	42386
890-3682-2	FS03	Soluble	Solid	300.0	42386
MB 880-42386/1-A	Method Blank	Soluble	Solid	300.0	42386
LCS 880-42386/2-A	Lab Control Sample	Soluble	Solid	300.0	42386
LCSD 880-42386/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42386
880-22954-A-1-E MS	Matrix Spike	Soluble	Solid	300.0	42386
880-22954-A-1-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	42386

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Client Sample ID: FS02

Date Collected: 12/19/22 12:30
Date Received: 12/19/22 16:16

Lab Sample ID: 890-3682-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	42724	12/27/22 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42777	12/29/22 03:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42879	12/29/22 11:42	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42697	12/27/22 11:28	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 18:24	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42467	12/22/22 07:58	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42459	12/22/22 18:46	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	42386	12/21/22 10:14	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42572	12/23/22 18:41	CH	EET MID

Client Sample ID: FS03

Date Collected: 12/19/22 14:00
Date Received: 12/19/22 16:16

Lab Sample ID: 890-3682-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	42724	12/27/22 14:04	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42777	12/29/22 04:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			42879	12/29/22 11:42	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42697	12/29/22 13:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	42831	12/28/22 17:11	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	42773	12/29/22 08:49	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	42386	12/21/22 10:14	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42572	12/23/22 18:46	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3682-1
SDG: 32.210278,-103.72500

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3682-1	FS02	Solid	12/19/22 12:30	12/19/22 16:16	4"
890-3682-2	FS03	Solid	12/19/22 14:00	12/19/22 16:16	4"

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	3122 Nat'l Park Hwy	Address:	3122 Nat'l Parks Hwy
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	308-517-8437	Email:	jadams@ensolum.com / kjennings@ensolum.com

Work Order Comments

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

Project Name:	Ruby Federal	Turn Around	3 DAY
Project Number:	03D2057036	☐ Routine ☑ Rush	Pres. Code
Project Location:	32.210278, -103.725000	Due Date:	12-22-22
Sampler's Name:	J. Fabomata	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TMH007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.0	
Total Containers:		Corrected Temperature:	1.8	

ANALYSIS REQUEST

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: TBH	BTEX	Chlorides	Sample Comments
FS02	S	12-19-22	1230	4'	C	1	✓	✓	✓	nAPP2231944646
FS03	S	12-19-22	1400	4'	C	1	✓	✓	✓	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12-19-22 1411	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3682-1
SDG Number: 32.210278,-103.72500

Login Number: 3682
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3682-1
SDG Number: 32.210278,-103.72500

Login Number: 3682
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 12/21/22 02:49 PM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/4/2023 12:02:54 PM

JOB DESCRIPTION

Ruby Federal
SDG NUMBER 03D2057036

JOB NUMBER

890-3722-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

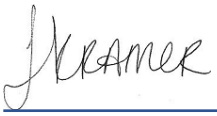
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
1/4/2023 12:02:54 PM

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

Client: Ensolum
Project/Site: Ruby Federal

Laboratory Job ID: 890-3722-1
SDG: 03D2057036

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Job ID: 890-3722-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3722-1

Receipt
The samples were received on 12/28/2022 3:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS03 (890-3722-1), FS04 (890-3722-2), FS05 (890-3722-3), FS06 (890-3722-4), FS07 (890-3722-5), FS08 (890-3722-6), FS09 (890-3722-7), FS10 (890-3722-8), SW02 (890-3722-9), SW03 (890-3722-10), SW04 (890-3722-11) and SW05 (890-3722-12).

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-43081 and analytical batch 880-43042 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (890-3722-A-4-C MS) and (890-3722-A-4-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS09 (890-3722-7). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS10 (890-3722-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW03 (890-3722-10). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS03

Lab Sample ID: 890-3722-1
Matrix: Solid
Date Collected: 12/28/22 08:50
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 01:49	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 01:49	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 01:49	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/03/23 13:31	01/04/23 01:49	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 01:49	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/03/23 13:31	01/04/23 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/03/23 13:31*	*01/04/23 01:49*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*01/03/23 13:31*	*01/04/23 01:49*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**1430**		49.9		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 13:29	1
Diesel Range Organics (Over C10-C28)	**1430**		49.9		mg/Kg		01/03/23 08:31	01/03/23 13:29	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*01/03/23 08:31*	*01/03/23 13:29*	*1*
o-Terphenyl	*105*		*70 - 130*	*01/03/23 08:31*	*01/03/23 13:29*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**116**		5.01		mg/Kg			12/31/22 07:50	1

Client Sample ID: FS04

Lab Sample ID: 890-3722-2
Matrix: Solid
Date Collected: 12/28/22 08:55
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 02:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 02:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 02:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/03/23 13:31	01/04/23 02:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 02:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/03/23 13:31	01/04/23 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:09*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS04

Lab Sample ID: 890-3722-2
Matrix: Solid
Date Collected: 12/28/22 08:55
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**2070**		49.9	mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		01/03/23 08:31	01/03/23 13:51	1
Diesel Range Organics (Over C10-C28)	**2070**		49.9	mg/Kg		01/03/23 08:31	01/03/23 13:51	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		01/03/23 08:31	01/03/23 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*101*		*70 - 130*	*01/03/23 08:31*	*01/03/23 13:51*	*1*
o-Terphenyl	*92*		*70 - 130*	*01/03/23 08:31*	*01/03/23 13:51*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**244**		4.99	mg/Kg			12/31/22 08:04	1

Client Sample ID: FS05

Lab Sample ID: 890-3722-3
Matrix: Solid
Date Collected: 12/28/22 09:00
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/03/23 13:31	01/04/23 02:29	1
Toluene	**0.0239**		0.00199	mg/Kg		01/03/23 13:31	01/04/23 02:29	1
Ethylbenzene	**0.0309**		0.00199	mg/Kg		01/03/23 13:31	01/04/23 02:29	1
m-Xylene & p-Xylene	**0.0302**		0.00398	mg/Kg		01/03/23 13:31	01/04/23 02:29	1
o-Xylene	**0.0212**		0.00199	mg/Kg		01/03/23 13:31	01/04/23 02:29	1
Xylenes, Total	**0.0514**		0.00398	mg/Kg		01/03/23 13:31	01/04/23 02:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:29*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.106**		0.00398	mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4530**		250	mg/Kg			01/04/23 11:53	1

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS05

Lab Sample ID: 890-3722-3
Matrix: Solid
Date Collected: 12/28/22 09:00
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<250	U	250		mg/Kg		01/03/23 08:31	01/03/23 14:36	5
Diesel Range Organics (Over C10-C28)	**4530**		250		mg/Kg		01/03/23 08:31	01/03/23 14:36	5
OII Range Organics (Over C28-C36)	<250	U	250		mg/Kg		01/03/23 08:31	01/03/23 14:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*01/03/23 08:31*	*01/03/23 14:36*	*5*
o-Terphenyl	*122*		*70 - 130*	*01/03/23 08:31*	*01/03/23 14:36*	*5*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4320**		25.0		mg/Kg			12/31/22 08:09	5

Client Sample ID: FS06

Lab Sample ID: 890-3722-4
Matrix: Solid
Date Collected: 12/28/22 09:05
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		01/03/23 13:31	01/04/23 02:50	1
Toluene	<0.00202	U	0.00202		mg/Kg		01/03/23 13:31	01/04/23 02:50	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		01/03/23 13:31	01/04/23 02:50	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		01/03/23 13:31	01/04/23 02:50	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		01/03/23 13:31	01/04/23 02:50	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		01/03/23 13:31	01/04/23 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:50*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*01/03/23 13:31*	*01/04/23 02:50*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		01/03/23 08:31	01/03/23 12:22	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		01/03/23 08:31	01/03/23 12:22	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		01/03/23 08:31	01/03/23 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*01/03/23 08:31*	*01/03/23 12:22*	*1*
o-Terphenyl	*91*		*70 - 130*	*01/03/23 08:31*	*01/03/23 12:22*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS06

Lab Sample ID: 890-3722-4
Matrix: Solid
Date Collected: 12/28/22 09:05
Date Received: 12/28/22 15:40
Sample Depth: 4

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41.4		4.98		mg/Kg			12/31/22 08:13	1

Client Sample ID: FS07

Lab Sample ID: 890-3722-5
Matrix: Solid
Date Collected: 12/28/22 09:10
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:21	1
Toluene	0.00236		0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:21	1
Ethylbenzene	0.0135		0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:21	1
m-Xylene & p-Xylene	0.00471		0.00398		mg/Kg		01/03/23 13:31	01/04/23 05:21	1
o-Xylene	0.0182		0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:21	1
Xylenes, Total	0.0229		0.00398		mg/Kg		01/03/23 13:31	01/04/23 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*01/03/23 13:31*	*01/04/23 05:21*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/03/23 13:31*	*01/04/23 05:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	0.0388		0.00398		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	89.1		49.9		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 14:58	1
Diesel Range Organics (Over C10-C28)	89.1		49.9		mg/Kg		01/03/23 08:31	01/03/23 14:58	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 14:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*01/03/23 08:31*	*01/03/23 14:58*	*1*
o-Terphenyl	*95*		*70 - 130*	*01/03/23 08:31*	*01/03/23 14:58*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.4		4.95		mg/Kg			12/31/22 08:18	1

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS08

Lab Sample ID: 890-3722-6
Matrix: Solid
Date Collected: 12/28/22 09:15
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:41	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:41	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:41	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/03/23 13:31	01/04/23 05:41	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 05:41	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/03/23 13:31	01/04/23 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*01/03/23 13:31*	*01/04/23 05:41*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/03/23 13:31*	*01/04/23 05:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**97.6**		50.0		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 15:19	1
Diesel Range Organics (Over C10-C28)	**97.6**		50.0		mg/Kg		01/03/23 08:31	01/03/23 15:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*01/03/23 08:31*	*01/03/23 15:19*	*1*
o-Terphenyl	*89*		*70 - 130*	*01/03/23 08:31*	*01/03/23 15:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**18.6**		5.05		mg/Kg			12/31/22 08:32	1

Client Sample ID: FS09

Lab Sample ID: 890-3722-7
Matrix: Solid
Date Collected: 12/28/22 10:00
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0998	U	0.0998		mg/Kg		01/03/23 13:31	01/04/23 03:10	50
Toluene	**1.80**		0.0998		mg/Kg		01/03/23 13:31	01/04/23 03:10	50
Ethylbenzene	**11.1**		0.0998		mg/Kg		01/03/23 13:31	01/04/23 03:10	50
m-Xylene & p-Xylene	**10.5**		0.200		mg/Kg		01/03/23 13:31	01/04/23 03:10	50
o-Xylene	**6.11**		0.0998		mg/Kg		01/03/23 13:31	01/04/23 03:10	50
Xylenes, Total	**16.6**		0.200		mg/Kg		01/03/23 13:31	01/04/23 03:10	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*01/03/23 13:31*	*01/04/23 03:10*	*50*

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS09

Lab Sample ID: 890-3722-7
Matrix: Solid
Date Collected: 12/28/22 10:00
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*01/03/23 13:31*	*01/04/23 03:10*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**29.5**		0.200	mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**8770**		250	mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	**937**		250	mg/Kg		01/03/23 08:31	01/03/23 14:14	5
Diesel Range Organics (Over C10-C28)	**7830**		250	mg/Kg		01/03/23 08:31	01/03/23 14:14	5
Oil Range Organics (Over C28-C36)	<250	U	250	mg/Kg		01/03/23 08:31	01/03/23 14:14	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*108*		*70 - 130*	*01/03/23 08:31*	*01/03/23 14:14*	*5*
o-Terphenyl	*213*	*S1+*	*70 - 130*	*01/03/23 08:31*	*01/03/23 14:14*	*5*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4980**		50.1	mg/Kg			12/31/22 08:37	10

Client Sample ID: FS10

Lab Sample ID: 890-3722-8
Matrix: Solid
Date Collected: 12/28/22 10:05
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0996	U	0.0996	mg/Kg		01/03/23 13:31	01/04/23 03:31	50
Toluene	**0.184**		0.0996	mg/Kg		01/03/23 13:31	01/04/23 03:31	50
Ethylbenzene	**0.664**		0.0996	mg/Kg		01/03/23 13:31	01/04/23 03:31	50
m-Xylene & p-Xylene	<0.199	U	0.199	mg/Kg		01/03/23 13:31	01/04/23 03:31	50
o-Xylene	**0.417**		0.0996	mg/Kg		01/03/23 13:31	01/04/23 03:31	50
Xylenes, Total	**0.417**		0.199	mg/Kg		01/03/23 13:31	01/04/23 03:31	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*01/03/23 13:31*	*01/04/23 03:31*	*50*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*01/03/23 13:31*	*01/04/23 03:31*	*50*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**1.27**		0.199	mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**94.6**		50.0	mg/Kg			01/04/23 11:53	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS10

Lab Sample ID: 890-3722-8
Matrix: Solid
Date Collected: 12/28/22 10:05
Date Received: 12/28/22 15:40
Sample Depth: 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 15:41	1
Diesel Range Organics (Over C10-C28)	**94.6**		50.0		mg/Kg		01/03/23 08:31	01/03/23 15:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*01/03/23 08:31*	*01/03/23 15:41*	*1*
o-Terphenyl	*117*		*70 - 130*	*01/03/23 08:31*	*01/03/23 15:41*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**13.2**		4.95		mg/Kg			12/31/22 08:42	1

Client Sample ID: SW02

Lab Sample ID: 890-3722-9
Matrix: Solid
Date Collected: 12/28/22 10:10
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 06:02	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 06:02	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 06:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/03/23 13:31	01/04/23 06:02	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/03/23 13:31	01/04/23 06:02	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/03/23 13:31	01/04/23 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:02*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:03	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*01/03/23 08:31*	*01/03/23 16:03*	*1*
o-Terphenyl	*93*		*70 - 130*	*01/03/23 08:31*	*01/03/23 16:03*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: SW02

Lab Sample ID: 890-3722-9
Matrix: Solid
Date Collected: 12/28/22 10:10
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.05	U	5.05		mg/Kg			12/31/22 08:46	1

Client Sample ID: SW03

Lab Sample ID: 890-3722-10
Matrix: Solid
Date Collected: 12/28/22 10:15
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:22	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/03/23 13:31	01/04/23 06:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:22	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/03/23 13:31	01/04/23 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:22*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*01/03/23 08:31*	*01/03/23 16:25*	*1*
o-Terphenyl	*112*		*70 - 130*	*01/03/23 08:31*	*01/03/23 16:25*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.04	U	5.04		mg/Kg			12/31/22 08:51	1

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: SW04

Lab Sample ID: 890-3722-11
Matrix: Solid
Date Collected: 12/28/22 10:20
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/03/23 13:31	01/04/23 06:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/04/23 06:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/03/23 13:31	01/04/23 06:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:43*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*01/03/23 13:31*	*01/04/23 06:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 17:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 17:09	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*01/03/23 08:31*	*01/03/23 17:09*	*1*
o-Terphenyl	*87*		*70 - 130*	*01/03/23 08:31*	*01/03/23 17:09*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**197**		5.01		mg/Kg			12/31/22 08:56	1

Client Sample ID: SW05

Lab Sample ID: 890-3722-12
Matrix: Solid
Date Collected: 12/28/22 10:25
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 07:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 07:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 07:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/03/23 13:31	01/04/23 07:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/03/23 13:31	01/04/23 07:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/03/23 13:31	01/04/23 07:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*01/03/23 13:31*	*01/04/23 07:03*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: SW05
Date Collected: 12/28/22 10:25
Date Received: 12/28/22 15:40
Sample Depth: 0 - 4

Lab Sample ID: 890-3722-12
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*01/03/23 13:31*	*01/04/23 07:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/04/23 09:17	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/04/23 11:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 17:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 17:31	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/03/23 08:31	01/03/23 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*01/03/23 08:31*	*01/03/23 17:31*	*1*
o-Terphenyl	*100*		*70 - 130*	*01/03/23 08:31*	*01/03/23 17:31*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**593**		5.05		mg/Kg			12/31/22 09:10	1

Surrogate Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-23218-A-1-A MS	Matrix Spike	108	105
880-23218-A-1-B MSD	Matrix Spike Duplicate	104	105
890-3722-1	FS03	99	107
890-3722-2	FS04	95	107
890-3722-3	FS05	96	101
890-3722-4	FS06	111	113
890-3722-5	FS07	93	103
890-3722-6	FS08	103	103
890-3722-7	FS09	116	87
890-3722-8	FS10	100	99
890-3722-9	SW02	102	108
890-3722-10	SW03	108	108
890-3722-11	SW04	104	107
890-3722-12	SW05	106	109
LCS 880-43081/1-A	Lab Control Sample	98	108
LCSD 880-43081/2-A	Lab Control Sample Dup	97	106
MB 880-42941/5-A	Method Blank	97	107
MB 880-43081/5-A	Method Blank	99	106

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-3722-1	FS03	121	105
890-3722-2	FS04	101	92
890-3722-3	FS05	107	122
890-3722-4	FS06	110	91
890-3722-4 MS	FS06	97	66 S1-
890-3722-4 MSD	FS06	98	65 S1-
890-3722-5	FS07	119	95
890-3722-6	FS08	110	89
890-3722-7	FS09	108	213 S1+
890-3722-8	FS10	134 S1+	117
890-3722-9	SW02	115	93
890-3722-10	SW03	136 S1+	112
890-3722-11	SW04	107	87
890-3722-12	SW05	130	100
LCS 880-43037/2-A	Lab Control Sample	127	94
LCSD 880-43037/3-A	Lab Control Sample Dup	112	83
MB 880-43037/1-A	Method Blank	103	93

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42941/5-A
Matrix: Solid
Analysis Batch: 43042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42941

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/22 11:33	01/03/23 12:23	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/30/22 11:33	01/03/23 12:23	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/30/22 11:33	01/03/23 12:23	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/30/22 11:33	01/03/23 12:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*12/30/22 11:33*	*01/03/23 12:23*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*12/30/22 11:33*	*01/03/23 12:23*	*1*

Lab Sample ID: MB 880-43081/5-A
Matrix: Solid
Analysis Batch: 43042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43081

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/03/23 23:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/03/23 13:31	01/03/23 23:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/03/23 13:31	01/03/23 23:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/03/23 13:31	01/03/23 23:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/03/23 13:31*	*01/03/23 23:58*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*01/03/23 13:31*	*01/03/23 23:58*	*1*

Lab Sample ID: LCS 880-43081/1-A
Matrix: Solid
Analysis Batch: 43042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43081

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08719		mg/Kg		87	70 - 130		
Toluene			0.100	0.08354		mg/Kg		84	70 - 130		
Ethylbenzene			0.100	0.08171		mg/Kg		82	70 - 130		
m-Xylene & p-Xylene			0.200	0.1684		mg/Kg		84	70 - 130		
o-Xylene			0.100	0.08268		mg/Kg		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-43081/2-A
Matrix: Solid
Analysis Batch: 43042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43081

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09080		mg/Kg		91	70 - 130	4	35

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

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

Lab Sample ID: LCSD 880-43081/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43042 — **Prep Batch: 43081**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08713		mg/Kg		87	70 - 130	4	35
Ethylbenzene			0.100	0.08626		mg/Kg		86	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1780		mg/Kg		89	70 - 130	6	35
o-Xylene			0.100	0.08662		mg/Kg		87	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-23218-A-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43042 — **Prep Batch: 43081**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U F1	0.101	<0.00202	U F1	mg/Kg		0.4	70 - 130
Toluene	<0.00199	U F2 F1	0.101	<0.00202	U F1	mg/Kg		0.3	70 - 130
Ethylbenzene	0.00570	F1	0.101	0.01008	F1	mg/Kg		4	70 - 130
m-Xylene & p-Xylene	0.0163	F1	0.202	0.02834	F1	mg/Kg		6	70 - 130
o-Xylene	0.0114	F1	0.101	0.01973	F1	mg/Kg		8	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-23218-A-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43042 — **Prep Batch: 43081**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.0996	<0.00199	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00199	U F2 F1	0.0996	0.006192	F2 F1	mg/Kg		5	70 - 130	105	35
Ethylbenzene	0.00570	F1	0.0996	0.01127	F1	mg/Kg		6	70 - 130	11	35
m-Xylene & p-Xylene	0.0163	F1	0.199	0.02364	F1	mg/Kg		4	70 - 130	18	35
o-Xylene	0.0114	F1	0.0996	0.01768	F1	mg/Kg		6	70 - 130	11	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

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

Lab Sample ID: MB 880-43037/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 43029 — **Prep Batch: 43037**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 08:45	1

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

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

Lab Sample ID: MB 880-43037/1-A
Matrix: Solid
Analysis Batch: 43029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43037

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 08:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/03/23 08:31	01/03/23 08:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*01/03/23 08:31*	*01/03/23 08:45*	*1*
o-Terphenyl	*93*		*70 - 130*	*01/03/23 08:31*	*01/03/23 08:45*	*1*

Lab Sample ID: LCS 880-43037/2-A
Matrix: Solid
Analysis Batch: 43029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43037

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	981.6		mg/Kg		98	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1010		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*127*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: LCSD 880-43037/3-A
Matrix: Solid
Analysis Batch: 43029

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43037

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	950.6		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	907.1		mg/Kg		91	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*112*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: 890-3722-4 MS
Matrix: Solid
Analysis Batch: 43029

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 43037

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	962.1		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	999	978.6		mg/Kg		95	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*66*	*S1-*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

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

Lab Sample ID: 890-3722-4 MSD
Matrix: Solid
Analysis Batch: 43029

Client Sample ID: FS06
Prep Type: Total/NA
Prep Batch: 43037

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	1015		mg/Kg		102	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	970.2		mg/Kg		94	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*65*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-42980/1-A
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			12/31/22 07:36	1

Lab Sample ID: LCS 880-42980/2-A
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	268.2		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-42980/3-A
Matrix: Solid
Analysis Batch: 43004

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	261.8		mg/Kg		105	90 - 110	2	20

Lab Sample ID: 890-3722-1 MS
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: FS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	116		251	384.6		mg/Kg		107	90 - 110		

Lab Sample ID: 890-3722-1 MSD
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: FS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	116		251	372.6		mg/Kg		103	90 - 110	3	20

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3722-11 MS
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	197		251	471.1		mg/Kg		109	90 - 110		

Lab Sample ID: 890-3722-11 MSD
Matrix: Solid
Analysis Batch: 43004

Client Sample ID: SW04
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	197		251	461.4		mg/Kg		106	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

GC VOA

Prep Batch: 42941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42941/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 43042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	8021B	43081
890-3722-2	FS04	Total/NA	Solid	8021B	43081
890-3722-3	FS05	Total/NA	Solid	8021B	43081
890-3722-4	FS06	Total/NA	Solid	8021B	43081
890-3722-5	FS07	Total/NA	Solid	8021B	43081
890-3722-6	FS08	Total/NA	Solid	8021B	43081
890-3722-7	FS09	Total/NA	Solid	8021B	43081
890-3722-8	FS10	Total/NA	Solid	8021B	43081
890-3722-9	SW02	Total/NA	Solid	8021B	43081
890-3722-10	SW03	Total/NA	Solid	8021B	43081
890-3722-11	SW04	Total/NA	Solid	8021B	43081
890-3722-12	SW05	Total/NA	Solid	8021B	43081
MB 880-42941/5-A	Method Blank	Total/NA	Solid	8021B	42941
MB 880-43081/5-A	Method Blank	Total/NA	Solid	8021B	43081
LCS 880-43081/1-A	Lab Control Sample	Total/NA	Solid	8021B	43081
LCSD 880-43081/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43081
880-23218-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	43081
880-23218-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43081

Prep Batch: 43081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	5035	
890-3722-2	FS04	Total/NA	Solid	5035	
890-3722-3	FS05	Total/NA	Solid	5035	
890-3722-4	FS06	Total/NA	Solid	5035	
890-3722-5	FS07	Total/NA	Solid	5035	
890-3722-6	FS08	Total/NA	Solid	5035	
890-3722-7	FS09	Total/NA	Solid	5035	
890-3722-8	FS10	Total/NA	Solid	5035	
890-3722-9	SW02	Total/NA	Solid	5035	
890-3722-10	SW03	Total/NA	Solid	5035	
890-3722-11	SW04	Total/NA	Solid	5035	
890-3722-12	SW05	Total/NA	Solid	5035	
MB 880-43081/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-43081/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43081/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-23218-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-23218-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	Total BTEX	
890-3722-2	FS04	Total/NA	Solid	Total BTEX	
890-3722-3	FS05	Total/NA	Solid	Total BTEX	
890-3722-4	FS06	Total/NA	Solid	Total BTEX	
890-3722-5	FS07	Total/NA	Solid	Total BTEX	
890-3722-6	FS08	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

GC VOA (Continued)

Analysis Batch: 43128 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-7	FS09	Total/NA	Solid	Total BTEX	
890-3722-8	FS10	Total/NA	Solid	Total BTEX	
890-3722-9	SW02	Total/NA	Solid	Total BTEX	
890-3722-10	SW03	Total/NA	Solid	Total BTEX	
890-3722-11	SW04	Total/NA	Solid	Total BTEX	
890-3722-12	SW05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	8015B NM	43037
890-3722-2	FS04	Total/NA	Solid	8015B NM	43037
890-3722-3	FS05	Total/NA	Solid	8015B NM	43037
890-3722-4	FS06	Total/NA	Solid	8015B NM	43037
890-3722-5	FS07	Total/NA	Solid	8015B NM	43037
890-3722-6	FS08	Total/NA	Solid	8015B NM	43037
890-3722-7	FS09	Total/NA	Solid	8015B NM	43037
890-3722-8	FS10	Total/NA	Solid	8015B NM	43037
890-3722-9	SW02	Total/NA	Solid	8015B NM	43037
890-3722-10	SW03	Total/NA	Solid	8015B NM	43037
890-3722-11	SW04	Total/NA	Solid	8015B NM	43037
890-3722-12	SW05	Total/NA	Solid	8015B NM	43037
MB 880-43037/1-A	Method Blank	Total/NA	Solid	8015B NM	43037
LCS 880-43037/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43037
LCSD 880-43037/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43037
890-3722-4 MS	FS06	Total/NA	Solid	8015B NM	43037
890-3722-4 MSD	FS06	Total/NA	Solid	8015B NM	43037

Prep Batch: 43037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	8015NM Prep	
890-3722-2	FS04	Total/NA	Solid	8015NM Prep	
890-3722-3	FS05	Total/NA	Solid	8015NM Prep	
890-3722-4	FS06	Total/NA	Solid	8015NM Prep	
890-3722-5	FS07	Total/NA	Solid	8015NM Prep	
890-3722-6	FS08	Total/NA	Solid	8015NM Prep	
890-3722-7	FS09	Total/NA	Solid	8015NM Prep	
890-3722-8	FS10	Total/NA	Solid	8015NM Prep	
890-3722-9	SW02	Total/NA	Solid	8015NM Prep	
890-3722-10	SW03	Total/NA	Solid	8015NM Prep	
890-3722-11	SW04	Total/NA	Solid	8015NM Prep	
890-3722-12	SW05	Total/NA	Solid	8015NM Prep	
MB 880-43037/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43037/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43037/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3722-4 MS	FS06	Total/NA	Solid	8015NM Prep	
890-3722-4 MSD	FS06	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

GC Semi VOA

Analysis Batch: 43155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Total/NA	Solid	8015 NM	
890-3722-2	FS04	Total/NA	Solid	8015 NM	
890-3722-3	FS05	Total/NA	Solid	8015 NM	
890-3722-4	FS06	Total/NA	Solid	8015 NM	
890-3722-5	FS07	Total/NA	Solid	8015 NM	
890-3722-6	FS08	Total/NA	Solid	8015 NM	
890-3722-7	FS09	Total/NA	Solid	8015 NM	
890-3722-8	FS10	Total/NA	Solid	8015 NM	
890-3722-9	SW02	Total/NA	Solid	8015 NM	
890-3722-10	SW03	Total/NA	Solid	8015 NM	
890-3722-11	SW04	Total/NA	Solid	8015 NM	
890-3722-12	SW05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 42980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Soluble	Solid	DI Leach	
890-3722-2	FS04	Soluble	Solid	DI Leach	
890-3722-3	FS05	Soluble	Solid	DI Leach	
890-3722-4	FS06	Soluble	Solid	DI Leach	
890-3722-5	FS07	Soluble	Solid	DI Leach	
890-3722-6	FS08	Soluble	Solid	DI Leach	
890-3722-7	FS09	Soluble	Solid	DI Leach	
890-3722-8	FS10	Soluble	Solid	DI Leach	
890-3722-9	SW02	Soluble	Solid	DI Leach	
890-3722-10	SW03	Soluble	Solid	DI Leach	
890-3722-11	SW04	Soluble	Solid	DI Leach	
890-3722-12	SW05	Soluble	Solid	DI Leach	
MB 880-42980/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-42980/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-42980/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3722-1 MS	FS03	Soluble	Solid	DI Leach	
890-3722-1 MSD	FS03	Soluble	Solid	DI Leach	
890-3722-11 MS	SW04	Soluble	Solid	DI Leach	
890-3722-11 MSD	SW04	Soluble	Solid	DI Leach	

Analysis Batch: 43004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3722-1	FS03	Soluble	Solid	300.0	42980
890-3722-2	FS04	Soluble	Solid	300.0	42980
890-3722-3	FS05	Soluble	Solid	300.0	42980
890-3722-4	FS06	Soluble	Solid	300.0	42980
890-3722-5	FS07	Soluble	Solid	300.0	42980
890-3722-6	FS08	Soluble	Solid	300.0	42980
890-3722-7	FS09	Soluble	Solid	300.0	42980
890-3722-8	FS10	Soluble	Solid	300.0	42980
890-3722-9	SW02	Soluble	Solid	300.0	42980
890-3722-10	SW03	Soluble	Solid	300.0	42980
890-3722-11	SW04	Soluble	Solid	300.0	42980
890-3722-12	SW05	Soluble	Solid	300.0	42980

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

HPLC/IC (Continued)

Analysis Batch: 43004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-42980/1-A	Method Blank	Soluble	Solid	300.0	42980
LCS 880-42980/2-A	Lab Control Sample	Soluble	Solid	300.0	42980
LCSD 880-42980/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	42980
890-3722-1 MS	FS03	Soluble	Solid	300.0	42980
890-3722-1 MSD	FS03	Soluble	Solid	300.0	42980
890-3722-11 MS	SW04	Soluble	Solid	300.0	42980
890-3722-11 MSD	SW04	Soluble	Solid	300.0	42980

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS03
Date Collected: 12/28/22 08:50
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 01:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 13:29	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 07:50	CH	EET MID

Client Sample ID: FS04
Date Collected: 12/28/22 08:55
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 02:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 13:51	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:04	CH	EET MID

Client Sample ID: FS05
Date Collected: 12/28/22 09:00
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 02:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	43029	01/03/23 14:36	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		5	0 mL	1.0 mL	43004	12/31/22 08:09	CH	EET MID

Client Sample ID: FS06
Date Collected: 12/28/22 09:05
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 02:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS06

Lab Sample ID: 890-3722-4
Matrix: Solid
Date Collected: 12/28/22 09:05
Date Received: 12/28/22 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 12:22	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:13	CH	EET MID

Client Sample ID: FS07

Lab Sample ID: 890-3722-5
Matrix: Solid
Date Collected: 12/28/22 09:10
Date Received: 12/28/22 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 05:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 14:58	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:18	CH	EET MID

Client Sample ID: FS08

Lab Sample ID: 890-3722-6
Matrix: Solid
Date Collected: 12/28/22 09:15
Date Received: 12/28/22 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 05:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 15:19	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:32	CH	EET MID

Client Sample ID: FS09

Lab Sample ID: 890-3722-7
Matrix: Solid
Date Collected: 12/28/22 10:00
Date Received: 12/28/22 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	43042	01/04/23 03:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		5	1 uL	1 uL	43029	01/03/23 14:14	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: FS09
Date Collected: 12/28/22 10:00
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.99 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		10	0 mL	1.0 mL	43004	12/31/22 08:37	CH	EET MID

Client Sample ID: FS10
Date Collected: 12/28/22 10:05
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		50	5 mL	5 mL	43042	01/04/23 03:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 15:41	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:42	CH	EET MID

Client Sample ID: SW02
Date Collected: 12/28/22 10:10
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 06:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 16:03	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:46	CH	EET MID

Client Sample ID: SW03
Date Collected: 12/28/22 10:15
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 06:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 16:25	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:51	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Client Sample ID: SW04

Date Collected: 12/28/22 10:20
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-11

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 06:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 17:09	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 08:56	CH	EET MID

Client Sample ID: SW05

Date Collected: 12/28/22 10:25
Date Received: 12/28/22 15:40

Lab Sample ID: 890-3722-12

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	43081	01/03/23 13:31	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43042	01/04/23 07:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			43128	01/04/23 09:17	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43155	01/04/23 11:53	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43037	01/03/23 08:31	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43029	01/03/23 17:31	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	42980	12/30/22 13:19	KS	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	43004	12/31/22 09:10	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

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

Protocol References:

ASTM = ASTM International

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

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3722-1
SDG: 03D2057036

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3722-1	FS03	Solid	12/28/22 08:50	12/28/22 15:40	4
890-3722-2	FS04	Solid	12/28/22 08:55	12/28/22 15:40	4
890-3722-3	FS05	Solid	12/28/22 09:00	12/28/22 15:40	4
890-3722-4	FS06	Solid	12/28/22 09:05	12/28/22 15:40	4
890-3722-5	FS07	Solid	12/28/22 09:10	12/28/22 15:40	4
890-3722-6	FS08	Solid	12/28/22 09:15	12/28/22 15:40	4
890-3722-7	FS09	Solid	12/28/22 10:00	12/28/22 15:40	4
890-3722-8	FS10	Solid	12/28/22 10:05	12/28/22 15:40	4
890-3722-9	SW02	Solid	12/28/22 10:10	12/28/22 15:40	0 - 4
890-3722-10	SW03	Solid	12/28/22 10:15	12/28/22 15:40	0 - 4
890-3722-11	SW04	Solid	12/28/22 10:20	12/28/22 15:40	0 - 4
890-3722-12	SW05	Solid	12/28/22 10:25	12/28/22 15:40	0 - 4

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

www.xenco.com Page 1 of 2

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

Work Order Comments

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

Project Name:	Ruby Federal	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2057036	Due Date:	
Project Location:	32.210278, -103.702500	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	NM007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.4	
Total Containers:		Corrected Temperature:	2.2	

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX	TPH	CHLORIDES	Sample Comments
FS03	S	12-28-22	0850	4'	C	1					nAPP2230442646
FS04	S	12-28-22	0855	4'	C	1					
FS05	S	12-28-22	0900	4'	C	1					
FS06	S	12-28-22	0905	4'	C	1					
FS07	S	12-28-22	0910	4'	C	1					
FS08	S	12-28-22	0915	4'	C	1					
FS09	S	12-28-22	1000	4'	C	1					
FS10	S	12-28-22	1005	4'	C	1					
SW02	S	12-28-22	1010	0-4'	C	1					
SW03	S	12-28-22	1015	0-4'	C	1					

890-3722 Chain of Custody

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.28.22 1540	2		
3				4		
				6		

Revised Date: 08/25/2020 Rev. 2020.2

Chain of Custody

eurofins | Environment Testing Xenco

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

Work Order No: _____

1/4/2023

www.xenco.com Page 2 of

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

Work Order Comments

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

Project Name:	Ruby Federal	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2057036	Due Date:	
Project Location:	32.210278, -103.772500	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Julianna Falcomata		
PO #:			

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

ANALYSIS REQUEST

Parameters: BTEX, TPH, CHLORIDES

Pres. Code

Preservative Co

None: NO DI Water
Cool: Cool MeOH: M
HCL: HC HNO_3: HN
H_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	BTEX	TPH	CHLORIDES
SW04	S	12-28-22	1020	0-4'	C	1	✓	✓	✓
SW05	S	12-28-22	1025	0-4'	C	1	✓	✓	✓

Sample Comments

nAPP2230442626

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Ave Cyp	12.28.22	2		
			4		
			6		

Revised Date: 08/25/2020 Re

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3722-1
SDG Number: 03D2057036

Login Number: 3722
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3722-1
SDG Number: 03D2057036

Login Number: 3722
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/30/22 11:10 AM

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/2/2023 2:51:57 PM Revision 2

JOB DESCRIPTION

Ruby Federal
SDG NUMBER Lea

JOB NUMBER

890-3774-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

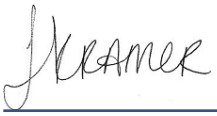
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

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

Authorization



Generated
2/2/2023 2:51:57 PM
Revision 2

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

Client: Ensolum
Project/Site: Ruby Federal

Laboratory Job ID: 890-3774-1
SDG: Lea

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Job ID: 890-3774-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3774-1

Revision
The report being provided is a revision of the original report sent on 1/16/2023. The report (revision 1) is being revised to include the results for the re-analysis of Cl on sample SW06.

Receipt
The samples were received on 1/5/2023 3:01 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 was 3.6º C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS11 (890-3774-1), FS12 (890-3774-2), SW06 (890-3774-3) and SW07 (890-3774-4).

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

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

GC Semi VOA
Method 8015B NM: The laboratory control sample (LCS) associated with preparation batch 880-43674 and analytical batch 880-43606 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015B NM: The CCV was biased high for the diesel range hydrocarbons; however, since another CCV was analyzed and acceptable in the 12 hour window the data was qualified and reported.

(CCV 880-43606/84)

Method 8015B NM: Surrogate recovery for the following sample was outside control limits: (MB 880-43674/1-A). Evidence of matrix interferences is not obvious.

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

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: FS11
Date Collected: 01/05/23 09:40
Date Received: 01/05/23 15:01
Sample Depth: 4

Lab Sample ID: 890-3774-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 06:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 06:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 06:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/12/23 14:48	01/14/23 06:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/12/23 14:48	01/14/23 06:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/12/23 14:48	01/14/23 06:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:00*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/16/23 17:00	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/11/23 10:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/19/23 17:30	02/02/23 14:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/19/23 17:30	02/02/23 14:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/19/23 17:30	02/02/23 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*01/19/23 17:30*	*02/02/23 14:11*	*1*
o-Terphenyl	*113*		*70 - 130*	*01/19/23 17:30*	*02/02/23 14:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**164**		5.00		mg/Kg			01/10/23 14:09	1

Client Sample ID: FS12
Date Collected: 01/05/23 12:10
Date Received: 01/05/23 15:01
Sample Depth: 4

Lab Sample ID: 890-3774-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/12/23 14:48	01/14/23 06:21	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/12/23 14:48	01/14/23 06:21	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/12/23 14:48	01/14/23 06:21	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/12/23 14:48	01/14/23 06:21	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/12/23 14:48	01/14/23 06:21	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/12/23 14:48	01/14/23 06:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:21*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: FS12
Date Collected: 01/05/23 12:10
Date Received: 01/05/23 15:01
Sample Depth: 4

Lab Sample ID: 890-3774-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:21*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/16/23 17:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/11/23 10:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *-	50.0	mg/Kg		01/10/23 15:15	01/11/23 03:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/11/23 03:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		01/10/23 15:15	01/11/23 03:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*01/10/23 15:15*	*01/11/23 03:27*	*1*
o-Terphenyl	*122*		*70 - 130*	*01/10/23 15:15*	*01/11/23 03:27*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**550**		5.00	mg/Kg			01/10/23 14:14	1

Client Sample ID: SW06
Date Collected: 01/05/23 09:45
Date Received: 01/05/23 15:01
Sample Depth: 0 - 4

Lab Sample ID: 890-3774-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/12/23 14:48	01/14/23 06:41	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/12/23 14:48	01/14/23 06:41	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/12/23 14:48	01/14/23 06:41	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		01/12/23 14:48	01/14/23 06:41	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/12/23 14:48	01/14/23 06:41	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		01/12/23 14:48	01/14/23 06:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:41*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*01/12/23 14:48*	*01/14/23 06:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			01/16/23 17:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**74.8**		50.0	mg/Kg			01/11/23 10:12	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: SW06

Date Collected: 01/05/23 09:45
Date Received: 01/05/23 15:01
Sample Depth: 0 - 4

Lab Sample ID: 890-3774-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *-	50.0		mg/Kg		01/10/23 15:15	01/11/23 03:47	1
Diesel Range Organics (Over C10-C28)	**74.8**		50.0		mg/Kg		01/10/23 15:15	01/11/23 03:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/10/23 15:15	01/11/23 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*01/10/23 15:15*	*01/11/23 03:47*	*1*
o-Terphenyl	*96*		*70 - 130*	*01/10/23 15:15*	*01/11/23 03:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**534**		5.02		mg/Kg			01/10/23 14:28	1

Client Sample ID: SW07

Date Collected: 01/05/23 12:15
Date Received: 01/05/23 15:01
Sample Depth: 0 - 4

Lab Sample ID: 890-3774-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/12/23 14:48	01/14/23 07:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/12/23 14:48	01/14/23 07:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/12/23 14:48	01/14/23 07:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*01/12/23 14:48*	*01/14/23 07:02*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*01/12/23 14:48*	*01/14/23 07:02*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

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

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/11/23 10:12	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *-	49.9		mg/Kg		01/10/23 15:15	01/11/23 04:08	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/10/23 15:15	01/11/23 04:08	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/10/23 15:15	01/11/23 04:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*01/10/23 15:15*	*01/11/23 04:08*	*1*
o-Terphenyl	*95*		*70 - 130*	*01/10/23 15:15*	*01/11/23 04:08*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: SW07

Date Collected: 01/05/23 12:15
Date Received: 01/05/23 15:01
Sample Depth: 0 - 4

Lab Sample ID: 890-3774-4

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	426		5.00		mg/Kg			01/10/23 14:33	1

Surrogate Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-3774-1	FS11	117	104
890-3774-2	FS12	112	102
890-3774-3	SW06	119	102
890-3774-4	SW07	115	104
890-3817-A-4-D MS	Matrix Spike	121	100
890-3817-A-4-E MSD	Matrix Spike Duplicate	129	98
LCS 880-43832/1-A	Lab Control Sample	108	102
LCSD 880-43832/2-A	Lab Control Sample Dup	106	104
MB 880-43654/5-A	Method Blank	106	103
MB 880-43832/5-B	Method Blank	109	99

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-23419-A-1-D MS	Matrix Spike	81	78
880-23419-A-1-E MSD	Matrix Spike Duplicate	80	77
880-24224-A-1-E MS	Matrix Spike	98	104
880-24224-A-1-F MSD	Matrix Spike Duplicate	94	100
890-3774-1	FS11	103	113
890-3774-2	FS12	112	122
890-3774-3	SW06	90	96
890-3774-4	SW07	89	95
LCS 880-43674/2-A	Lab Control Sample	81	82
LCS 880-45238/2-A	Lab Control Sample	75	79
LCSD 880-43674/3-A	Lab Control Sample Dup	80	82
LCSD 880-45238/3-A	Lab Control Sample Dup	73	79
MB 880-43674/1-A	Method Blank	128	131 S1+
MB 880-45238/1-A	Method Blank	110	135 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Method: 8021B - Volatile Organic Compounds (GC)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Lab Sample ID: MB 880-43674/1-A
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43674

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/10/23 15:15	01/10/23 19:56	1

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

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

Lab Sample ID: MB 880-43674/1-A
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 43674

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/10/23 15:15	01/10/23 19:56	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/10/23 15:15	01/10/23 19:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*01/10/23 15:15*	*01/10/23 19:56*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*01/10/23 15:15*	*01/10/23 19:56*	*1*

Lab Sample ID: LCS 880-43674/2-A
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 43674

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	617.8	*-	mg/Kg		62	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	842.6		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: LCSD 880-43674/3-A
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 43674

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	577.3	*-	mg/Kg		58	70 - 130	7	20
Diesel Range Organics (Over C10-C28)			1000	805.5		mg/Kg		81	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Lab Sample ID: 880-23419-A-1-D MS
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 43674

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *-	998	832.0		mg/Kg		81	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	951.0		mg/Kg		92	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

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

Lab Sample ID: 880-23419-A-1-E MSD
Matrix: Solid
Analysis Batch: 43606

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 43674

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *-	997	799.9		mg/Kg		78	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	949.0		mg/Kg		92	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*77*		*70 - 130*

Lab Sample ID: MB 880-45238/1-A
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45238

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/02/23 09:29	02/02/23 08:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/02/23 09:29	02/02/23 08:59	1
Oll Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/02/23 09:29	02/02/23 08:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*02/02/23 09:29*	*02/02/23 08:59*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*02/02/23 09:29*	*02/02/23 08:59*	*1*

Lab Sample ID: LCS 880-45238/2-A
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45238

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			999	879.4		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			999	947.2		mg/Kg		95	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: LCSD 880-45238/3-A
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45238

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	761.5		mg/Kg		76	70 - 130	14	20
Diesel Range Organics (Over C10-C28)			999	932.5		mg/Kg		93	70 - 130	2	20

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

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

Lab Sample ID: LCSD 880-45238/3-A
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45238

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	73		70 - 130
o-Terphenyl	79		70 - 130

Lab Sample ID: 880-24224-A-1-E MS
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 45238

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1239		mg/Kg		122	70 - 130
Diesel Range Organics (Over C10-C28)	80.3		1000	945.9		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	98		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 880-24224-A-1-F MSD
Matrix: Solid
Analysis Batch: 45228

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 45238

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	998	1179		mg/Kg		116	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	80.3		998	896.5		mg/Kg		82	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	100		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43541/1-A
Matrix: Solid
Analysis Batch: 43614

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/10/23 12:53	1

Lab Sample ID: LCS 880-43541/2-A
Matrix: Solid
Analysis Batch: 43614

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	249.6		mg/Kg		100	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-43541/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43614

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	249.7		mg/Kg		100	90 - 110	0	20

Lab Sample ID: 890-3774-2 MS — **Client Sample ID: FS12**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43614

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	550		250	825.5		mg/Kg		110	90 - 110		

Lab Sample ID: 890-3774-2 MSD — **Client Sample ID: FS12**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 43614

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	550		250	799.5		mg/Kg		100	90 - 110	3	20

Lab Sample ID: MB 880-44208/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 44265

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/18/23 12:11	1

Lab Sample ID: LCS 880-44208/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 44265

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	260.1		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-44208/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 44265

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	260.3		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

GC VOA

Prep Batch: 43654

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

Prep Batch: 43832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	5035	
890-3774-2	FS12	Total/NA	Solid	5035	
890-3774-3	SW06	Total/NA	Solid	5035	
890-3774-4	SW07	Total/NA	Solid	5035	
MB 880-43832/5-B	Method Blank	Total/NA	Solid	5035	
LCS 880-43832/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-43832/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3817-A-4-D MS	Matrix Spike	Total/NA	Solid	5035	
890-3817-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 43866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	8021B	43832
890-3774-2	FS12	Total/NA	Solid	8021B	43832
890-3774-3	SW06	Total/NA	Solid	8021B	43832
890-3774-4	SW07	Total/NA	Solid	8021B	43832
MB 880-43654/5-A	Method Blank	Total/NA	Solid	8021B	43654
MB 880-43832/5-B	Method Blank	Total/NA	Solid	8021B	43832
LCS 880-43832/1-A	Lab Control Sample	Total/NA	Solid	8021B	43832
LCSD 880-43832/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	43832
890-3817-A-4-D MS	Matrix Spike	Total/NA	Solid	8021B	43832
890-3817-A-4-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	43832

Analysis Batch: 44102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	Total BTEX	
890-3774-2	FS12	Total/NA	Solid	Total BTEX	
890-3774-3	SW06	Total/NA	Solid	Total BTEX	
890-3774-4	SW07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 43606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-2	FS12	Total/NA	Solid	8015B NM	43674
890-3774-3	SW06	Total/NA	Solid	8015B NM	43674
890-3774-4	SW07	Total/NA	Solid	8015B NM	43674
MB 880-43674/1-A	Method Blank	Total/NA	Solid	8015B NM	43674
LCS 880-43674/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	43674
LCSD 880-43674/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	43674
880-23419-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	43674
880-23419-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	43674

Prep Batch: 43674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-2	FS12	Total/NA	Solid	8015NM Prep	
890-3774-3	SW06	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

GC Semi VOA (Continued)

Prep Batch: 43674 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-4	SW07	Total/NA	Solid	8015NM Prep	
MB 880-43674/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-43674/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-43674/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-23419-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-23419-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 43720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	8015 NM	
890-3774-2	FS12	Total/NA	Solid	8015 NM	
890-3774-3	SW06	Total/NA	Solid	8015 NM	
890-3774-4	SW07	Total/NA	Solid	8015 NM	

Analysis Batch: 45228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	8015B NM	45238
MB 880-45238/1-A	Method Blank	Total/NA	Solid	8015B NM	45238
LCS 880-45238/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45238
LCSD 880-45238/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45238
880-24224-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	45238
880-24224-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45238

Prep Batch: 45238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Total/NA	Solid	8015NM Prep	
MB 880-45238/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45238/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45238/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24224-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24224-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 43541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Soluble	Solid	DI Leach	
890-3774-2	FS12	Soluble	Solid	DI Leach	
890-3774-3	SW06	Soluble	Solid	DI Leach	
890-3774-4	SW07	Soluble	Solid	DI Leach	
MB 880-43541/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43541/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43541/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3774-2 MS	FS12	Soluble	Solid	DI Leach	
890-3774-2 MSD	FS12	Soluble	Solid	DI Leach	

Analysis Batch: 43614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-1	FS11	Soluble	Solid	300.0	43541
890-3774-2	FS12	Soluble	Solid	300.0	43541
890-3774-3	SW06	Soluble	Solid	300.0	43541

QC Association Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

HPLC/IC (Continued)

Analysis Batch: 43614 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3774-4	SW07	Soluble	Solid	300.0	43541
MB 880-43541/1-A	Method Blank	Soluble	Solid	300.0	43541
LCS 880-43541/2-A	Lab Control Sample	Soluble	Solid	300.0	43541
LCSD 880-43541/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43541
890-3774-2 MS	FS12	Soluble	Solid	300.0	43541
890-3774-2 MSD	FS12	Soluble	Solid	300.0	43541

Leach Batch: 44208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-44208/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-44208/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-44208/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 44265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-44208/1-A	Method Blank	Soluble	Solid	300.0	44208
LCS 880-44208/2-A	Lab Control Sample	Soluble	Solid	300.0	44208
LCSD 880-44208/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	44208

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: FS11
Date Collected: 01/05/23 09:40
Date Received: 01/05/23 15:01

Lab Sample ID: 890-3774-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	43832	01/12/23 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43866	01/14/23 06:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44102	01/16/23 17:00	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43720	01/11/23 10:12	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45238	01/19/23 17:30	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45228	02/02/23 14:11	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43541	01/09/23 12:54	KS	EET MID
Soluble	Analysis	300.0		1			43614	01/10/23 14:09	CH	EET MID

Client Sample ID: FS12
Date Collected: 01/05/23 12:10
Date Received: 01/05/23 15:01

Lab Sample ID: 890-3774-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	43832	01/12/23 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43866	01/14/23 06:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44102	01/16/23 17:00	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43720	01/11/23 10:12	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	43674	01/10/23 15:15	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43606	01/11/23 03:27	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43541	01/09/23 12:54	KS	EET MID
Soluble	Analysis	300.0		1			43614	01/10/23 14:14	CH	EET MID

Client Sample ID: SW06
Date Collected: 01/05/23 09:45
Date Received: 01/05/23 15:01

Lab Sample ID: 890-3774-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	43832	01/12/23 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43866	01/14/23 06:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44102	01/16/23 17:00	AJ	EET MID
Total/NA	Analysis	8015 NM		1			43720	01/11/23 10:12	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	43674	01/10/23 15:15	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43606	01/11/23 03:47	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	43541	01/09/23 12:54	KS	EET MID
Soluble	Analysis	300.0		1			43614	01/10/23 14:28	CH	EET MID

Client Sample ID: SW07
Date Collected: 01/05/23 12:15
Date Received: 01/05/23 15:01

Lab Sample ID: 890-3774-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	43832	01/12/23 14:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	43866	01/14/23 07:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			44102	01/16/23 17:00	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Client Sample ID: SW07
Date Collected: 01/05/23 12:15
Date Received: 01/05/23 15:01

Lab Sample ID: 890-3774-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			43720	01/11/23 10:12	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	43674	01/10/23 15:15	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	43606	01/11/23 04:08	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	43541	01/09/23 12:54	KS	EET MID
Soluble	Analysis	300.0		1			43614	01/10/23 14:33	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: Ruby Federal

Job ID: 890-3774-1
SDG: Lea

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3774-1	FS11	Solid	01/05/23 09:40	01/05/23 15:01	4
890-3774-2	FS12	Solid	01/05/23 12:10	01/05/23 15:01	4
890-3774-3	SW06	Solid	01/05/23 09:45	01/05/23 15:01	0 - 4
890-3774-4	SW07	Solid	01/05/23 12:15	01/05/23 15:01	0 - 4

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Josh Adams	Bill to: (if different)	Kalei Jennings
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marienfeld St Suite 400	Address:	601 N Marienfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	303-517-8437	Email:	kjennings@ensolum.com, jadams@ensolum.com

Work Order Comments

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

Project Name:	Ruby Federal	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2057036	Due Date:	
Project Location:	Lea	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Peter Van Patten		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	T-NM003
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	3.8
Total Containers:		Corrected Temperature:	3.6

Preservative Codes

None: NO; DI Water: H_2O
Cool: Cool; MeOH: Me
HCL: HC; HNO_3: HN
H_2SO_4: H_2; NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	Parameters: TPH (8015)	Parameters: BTEX (8021)
FS11	Soil	1/5/2023	940	4'	Comp	1		x	x	x
FS12	Soil	1/5/2023	1210	4'	Comp	1		x	x	x
SW06	Soil	1/5/2023	945	0'-4'	Comp	1		x	x	x
SW07	Soil	1/5/2023	1215	0'-4'	Comp	1		x	x	x

ANALYSIS REQUEST

890-3774 Chain of Custody

Sample Comments

Insodent #: AFE000000002142

Cost Code: GA130323

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Peter Van Patten		1-5-23 1501	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020 2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3774-1
SDG Number: Lea

Login Number: 3774
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3774-1
SDG Number: Lea

Login Number: 3774
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/09/23 08:26 AM

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 11, 2023

KALEI JENNINGS

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: RUBY FEDERAL

Enclosed are the results of analyses for samples received by the laboratory on 04/05/23 14:00.

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	04/05/2023	Sampling Date:	04/03/2023
Reported:	04/11/2023	Sampling Type:	Soil
Project Name:	RUBY FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	03D20257036	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8302,-103.7919		

Sample ID: FS02 A 4.5' (H231592-01)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/07/2023	ND	2.14	107	2.00	6.73	
Toluene*	<0.050	0.050	04/07/2023	ND	2.17	108	2.00	6.51	
Ethylbenzene*	<0.050	0.050	04/07/2023	ND	2.12	106	2.00	8.03	
Total Xylenes*	<0.150	0.150	04/07/2023	ND	6.63	111	6.00	8.73	
Total BTEX	<0.300	0.300	04/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/06/2023	ND	416	104	400	0.00	

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	04/08/2023	ND	179	89.5	200	3.01	
DRO >C10-C28*	<10.0	10.0	04/08/2023	ND	167	83.3	200	7.34	
EXT DRO >C28-C36	<10.0	10.0	04/08/2023	ND					

Surrogate: 1-Chlorooctane *84.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	04/05/2023	Sampling Date:	04/03/2023
Reported:	04/11/2023	Sampling Type:	Soil
Project Name:	RUBY FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	03D20257036	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8302,-103.7919		

Sample ID: FS03 A 4.5' (H231592-02)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/07/2023	ND	2.14	107	2.00	6.73	
Toluene*	<0.050	0.050	04/07/2023	ND	2.17	108	2.00	6.51	
Ethylbenzene*	<0.050	0.050	04/07/2023	ND	2.12	106	2.00	8.03	
Total Xylenes*	<0.150	0.150	04/07/2023	ND	6.63	111	6.00	8.73	
Total BTEX	<0.300	0.300	04/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/06/2023	ND	416	104	400	0.00	

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	04/08/2023	ND	179	89.5	200	3.01	
DRO >C10-C28*	<10.0	10.0	04/08/2023	ND	167	83.3	200	7.34	
EXT DRO >C28-C36	<10.0	10.0	04/08/2023	ND					

Surrogate: 1-Chlorooctane *87.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	04/05/2023	Sampling Date:	04/03/2023
Reported:	04/11/2023	Sampling Type:	Soil
Project Name:	RUBY FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	03D20257036	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8302,-103.7919		

Sample ID: FS04 A 4.5' (H231592-03)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/07/2023	ND	2.14	107	2.00	6.73	
Toluene*	<0.050	0.050	04/07/2023	ND	2.17	108	2.00	6.51	
Ethylbenzene*	<0.050	0.050	04/07/2023	ND	2.12	106	2.00	8.03	
Total Xylenes*	<0.150	0.150	04/07/2023	ND	6.63	111	6.00	8.73	
Total BTEX	<0.300	0.300	04/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

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	04/06/2023	ND	416	104	400	0.00	

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	04/08/2023	ND	179	89.5	200	3.01	
DRO >C10-C28*	<10.0	10.0	04/08/2023	ND	167	83.3	200	7.34	
EXT DRO >C28-C36	<10.0	10.0	04/08/2023	ND					

Surrogate: 1-Chlorooctane *81.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	04/05/2023	Sampling Date:	04/03/2023
Reported:	04/11/2023	Sampling Type:	Soil
Project Name:	RUBY FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	03D20257036	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8302,-103.7919		

Sample ID: FS05 A 4.5' (H231592-04)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/07/2023	ND	2.14	107	2.00	6.73	
Toluene*	<0.050	0.050	04/07/2023	ND	2.17	108	2.00	6.51	
Ethylbenzene*	<0.050	0.050	04/07/2023	ND	2.12	106	2.00	8.03	
Total Xylenes*	<0.150	0.150	04/07/2023	ND	6.63	111	6.00	8.73	
Total BTEX	<0.300	0.300	04/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	04/06/2023	ND	416	104	400	0.00	

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	04/10/2023	ND	191	95.3	200	0.900	
DRO >C10-C28*	<10.0	10.0	04/10/2023	ND	192	95.8	200	2.70	
EXT DRO >C28-C36	<10.0	10.0	04/10/2023	ND					

Surrogate: 1-Chlorooctane *88.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *92.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

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

Received:	04/05/2023	Sampling Date:	04/03/2023
Reported:	04/11/2023	Sampling Type:	Soil
Project Name:	RUBY FEDERAL	Sampling Condition:	Cool & Intact
Project Number:	03D20257036	Sample Received By:	Shalyn Rodriguez
Project Location:	32.8302,-103.7919		

Sample ID: FS09 A 4.5' (H231592-05)

BTEX 8021B mg/kg Analyzed By: JH/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/07/2023	ND	2.14	107	2.00	6.73	
Toluene*	<0.050	0.050	04/07/2023	ND	2.17	108	2.00	6.51	
Ethylbenzene*	<0.050	0.050	04/07/2023	ND	2.12	106	2.00	8.03	
Total Xylenes*	<0.150	0.150	04/07/2023	ND	6.63	111	6.00	8.73	
Total BTEX	<0.300	0.300	04/07/2023	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

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	04/06/2023	ND	416	104	400	0.00	

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	04/10/2023	ND	191	95.3	200	0.900	
DRO >C10-C28*	<10.0	10.0	04/10/2023	ND	192	95.8	200	2.70	
EXT DRO >C28-C36	<10.0	10.0	04/10/2023	ND					

Surrogate: 1-Chlorooctane *82.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

*#8 4/5/23

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Kalei Jennings	P.O. #:
Address: 601 N Marienfeld Street, Suite 400	Company: Ensolum, LLC
City: Midland State: TX Zip: 79701	Attn: Kalei Jennings
Phone #: 817-683-2503 Fax #:	Address:
Project #: 03D20257036 Project Owner:	City:
Project Name: Ruby Federal	State: Zip:
Project Location: 32.8302,-103.7919	Phone #:
Sampler Name: Peter Van Patten	Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chlorides (EPA 300.0) 4500	TPH (8015)	BTEX (8021)
H231592																		
1	FS02A	4.5'	C	1			✓					✓		4-3-23	1105	✓	✓	✓
2	FS03A	4.5'	C	1			✓					✓		4-3-23	1110	✓	✓	✓
3	FS04A	4.5'	C	1			✓					✓		4-3-23	1115	✓	✓	✓
4	FS05A	4.5'	C	1			✓					✓		4-3-23	1120	✓	✓	✓
5	FS09A	4.5'	C	1			✓					✓		4-3-23	1125	✓	✓	✓

Relinquished By: Peter Van Patten	Date: 4/5/23 Time: 1400	Received By: Brad Bigney	Verbal Result: ☐ Yes ☑ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: kjennings@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 1.4 Corrected Temp. °C 0.8	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) SR

REMARKS: * Customer requested change from CL 300 to CL 4500 SR 4/5/23

Turnaround Time: Standard ☑ Rush ☐

Thermometer ID #113
Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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

ENSOLUM

APPENDIX D

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Kalei Jennings
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 4/3/2023)
Date: Tuesday, April 4, 2023 9:16:29 AM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Kalei,

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 insure inclusion in the project file.

JH

Jocelyn Harimon ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
http:// **www.emnrd.nm.gov**

From: Kalei Jennings <kjennings@ensolum.com>
Sent: Tuesday, April 4, 2023 8:11 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Subject: [EXTERNAL] Maverick Permian - Sampling Notification (Week of 4/3/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

Maverick Permian, LLC (Maverick) plans to complete sampling activities at the following site the week of April 3, 2023.

- Grayburg Eumont Straw Battery/ NAPP2302036818
  - Sampling Date: 4/5/2023 & 4/6/2023
- Ruby Federal / NAPP2231448981

    - Sampling Date: 4/5 /2023 2023
- EVGSAU 2418-001 / NAPP2231954757
    - Sampling Date: 4/6/2023
- EVGSAU 2963-001/ NAPP2235371799
    - Sampling Date: 4/7/2023
- MCA 351/ NAPP2302034681
    - Sampling Date: 4/7/2023

Thank you,

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

ENSOLUM

APPENDIX E

Final C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2231448981
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Maverick Permian, LLC	OGRID: 331199
Contact Name: Bryce Wagoner	Contact Telephone: 928-241-1862
Contact email: Bryce.Wagoner@mavresources.com	Incident # *(assigned by OCD)* NAPP2231448981
Contact mailing address: 1410 NW County Road Hobbs, NM 88240	

Location of Release Source

Latitude 32.830273 Longitude -103.791966
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Ruby Federal	Site Type
Date Release Discovered October 27, 2022	API# *(if applicable)* 30-025-40523

Unit Letter	Section	Township	Range	County
N	17	17S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☒ Crude Oil	Volume Released (bbls) 0.09 bbls	Volume Recovered (bbls) 0 bbls
☒ Produced Water	Volume Released (bbls) 8.55 bbls	Volume Recovered (bbls) 0.5 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
The release was caused by a flowline leak resulting in a minor release. The release occurred off pad. A vacuum truck was dispatched to the site to recover free standing fluids. The source of the release has been stopped and the impacted area has been secured. Initial response and removal of saturated soil from the release area has been completed.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231448981
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
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 source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 11/10/2022

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 11/10/2022

Pooled Fluids on the Surface										
	Length (ft.)	Width (ft.)	Depth (in)	# of Boundaries *edges of pool where depth is 0. don't count shared boundaries*	Oil-Water Ratio (%)	Pooled Area (ft^2)	Estimated Average Depth (ft.)	Pooled Volume (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	28.0	3.0	0.5	1.0	0.01	84.0	0.0	0.6	0.01	0.62
Rectangle B	20.0	3.0	0.5	1.0	0.01	60.0	0.0	0.4	0.00	0.44
Rectangle C						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle D						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Rectangle E						0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
							Total Volume (bbls):	**1.07**	**0.01**	**1.06**

Subsurface Fluids										
	Length (ft.)	Width (ft.)	Depth (in.)	Saturation (%) **10% in consolidated sediments after rain to 50% in sand with no precipitation*	Oil-Water Ratio (%)	Area (ft^2)	Volume (bbl.)	Estimated Volume in Subsurface (bbl.)	Volume of Oil in Subsurface (bbl.)	Volume of Water in Subsurface (bbl.)
Rectangle A	18.0	12.0	12.0	0.1	0.01	216.0	38.4	3.1	0.03	3.0
Rectangle B	15.0	7.0	12.0	0.1	0.01	105.0	18.7	1.5	0.01	1.5
Rectangle C	30.0	7.0	12.0	0.1	0.01	210.0	37.4	3.0	0.03	3.0
Rectangle D						0.0	0.0	0.0	0.00	0.0
Rectangle E						0.0	0.0	0.0	0.00	0.0
Rectangle F						0.0	0.0	0.0	0.00	0.0
Rectangle G						0.0	0.0	0.0	0.00	0.0
Rectangle H						0.0	0.0	0.0	0.00	0.0
Rectangle I						0.0	0.0	0.0	0.00	0.0
Rectangle J						0.0	0.0	0.0	0.00	0.0
							Total Volume (bbls):	**7.56**	**0.08**	**7.49**

TOTAL RELEASE VOLUME (bbls):	8.6

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: Maverick Permian LLC 1111 Bagby Street Suite 1600 Houston, TX 77002	OGRID: 331199
	Action Number: 157787
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	11/10/2022

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231448981
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☑ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☑ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☑ Field data
- ☑ Data table of soil contaminant concentration data
- ☑ Depth to water determination
- ☑ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☑ Boring or excavation logs
- ☑ Photographs including date and GIS information
- ☑ Topographic/Aerial maps
- ☑ Laboratory data including chain of custody

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231448981
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 05/05/2023

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 05/19/2023

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2231448981
District RP	
Facility ID	
Application ID	

Closure

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

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

☑ A scaled site and sampling diagram as described in 19.15.29.11 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: Bryce Wagoner Title: Permian HSE Specialist II

Signature: Date: 05/05/2023

email: Bryce.Wagoner@mavresources.com Telephone: 928-241-1862

OCD Only

Received by: Jocelyn Harimon Date: 05/19/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Nelson Velez Date: 08/04/2023

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 217819

CONDITIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 217819
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	8/4/2023