APPROVED

ENSOLUM

May 9, 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
Bufflehead 10 Federal 001H
Incident Number NAPP2305139488
Lea County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Bufflehead 10 Federal 001H (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a crude oil flare fire at the Site. Based on excavation activities and laboratory analytical results from the soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2305139488.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit B, Section 10, Township 26 South, Range 32 East, in Lea County, New Mexico (32.0636°, -103.6594°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On February 10, 2023, a valve malfunction resulted in crude oil being sent to the flare. The released crude oil ignited and extinguished itself after reaching the ground. The fire affected the well pad beneath the flare and the adjacent pasture. The released volume was estimated to be approximately 0.69 barrels (bbls) of crude oil. No released fluids were recovered. COG reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) via email on February 11, 2023 and submitted a Release Notification Form C-141 (Form C-141) on February 20, 2023. The release was assigned Incident Number NAPP2305139488.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 5 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04549, located approximately 0.6 miles east of the Site. The groundwater well was drilled via hollow stem auger and

has a reported total depth of 103 feet bgs. The well was drilled in July of 2021, and no groundwater was encountered. Ground surface elevation at the groundwater well location is 3,247 feet above mean sea level (amsl), which is approximately 17 feet lower in elevation than the Site. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a riverine, located approximately 1,548 feet east 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 (medium potential karst designation area). Site receptors are identified on Figure 1.

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

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

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

SITE ASSESSMENT AND SOIL SAMPLE ACTIVITIES

On February 28, 2023, Ensolum personnel were at the Site to complete Site assessment activities and evaluate the release area based on visible staining and information provided on the Form C-141. Soil samples SS01 through SS04 were collected around the release extent at a depth of approximately 0.5 feet bgs, to confirm the lateral extent of the release. Soil samples SS05 through SS11 were collected within the release extent at a depth of approximately 0.5 feet bgs to assess the surficial soil within the release area. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during the Site visit and a photographic log is included in Appendix B.

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

On March 24, 2023, Ensolum personnel returned to the Site to complete vertical delineation activities. Potholes were advanced via backhoe to a depth of 1-foot bgs at the SS05 and SS07 through SS09 surface sample locations, to assess the vertical extent of the release. Discrete delineation soil samples

SS05A and SS07A through SS09A were collected from the potholes at the terminal depth of 1-foot bgs. Soil from the potholes was field screened for VOCs and chloride. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs and are included in Appendix C. The soil samples were collected, handled, and analyzed following the same procedures as described above. The soil sample locations are depicted on Figure 2.

Laboratory analytical results for 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 delineation soil samples SS05/SS05A, SS07/SS07A through SS09/SS09A, and SS10 through SS11 indicated all COC concentrations were compliant with the Site Closure Criteria and/or the reclamation requirement where applicable. Laboratory analytical results for soil sample SS06, collected at 0.5 feet bgs and within the pasture release extent, indicated TPH concentrations exceeded the reclamation requirement. Based on laboratory analytical results for soil sample SS06 and visible staining in the area around soil samples SS10 and SS11, excavation activities were warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 24, 2023, Ensolum personnel were at the Site to oversee excavation activities based on visible staining within the release extent around soil samples SS10 and SS11 and laboratory analytical results for soil sample SS06. Excavation activities were performed utilizing a backhoe and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to depths ranging from 0.5 feet to 1.5 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor of the excavations. 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. Due to the shallow depth of both excavations, the sidewalls were incorporated into the floor samples. Composite soil samples FS01 through FS06 were collected from the floor of the excavations at depths ranging from 0.5 feet to 1.5 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extents and excavation soil sample locations are presented on Figure 3.

Laboratory analytical results for excavation soil samples FS01 through FS06 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix D.

The excavation area measured approximately 1,070 square feet. A total of 40 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

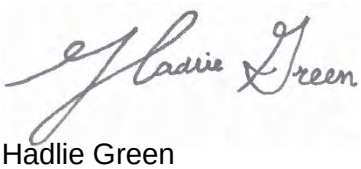
CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the impacted soil resulting from the February 10, 2023, crude oil flare fire. Laboratory analytical results for excavation soil samples, collected from the final excavation extents, indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. In addition, soil samples SS01 through SS04 successfully defined the lateral extent of the release. Based on the soil sample analytical results, no further remediation was required.

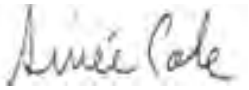
Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. COG believes these remedial actions are protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2305139488.

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

Sincerely,
Ensolum, LLC



Hadlie Green
Project Geologist



Aimee Cole
Senior Managing Geologist

cc: Jacob Laird, COG Operating, LLC
Bureau of Land Management

Appendices:

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

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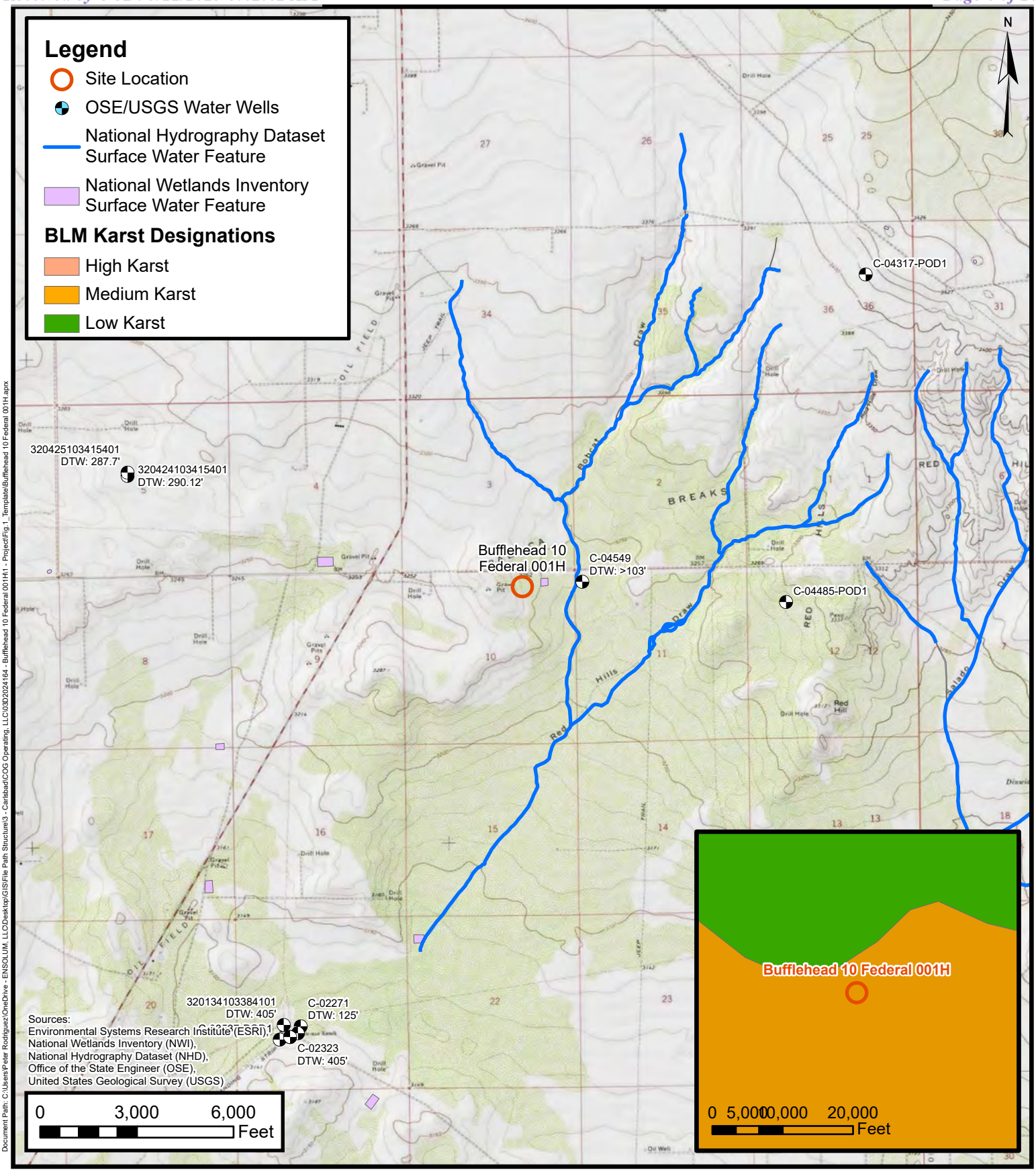
FIGURES



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\COG Operating, LLC\03D2024164 - Bufflehead 10 Federal 001H\1 - Project\Fig 1_Template\Bufflehead 10 Federal 001H.aprx

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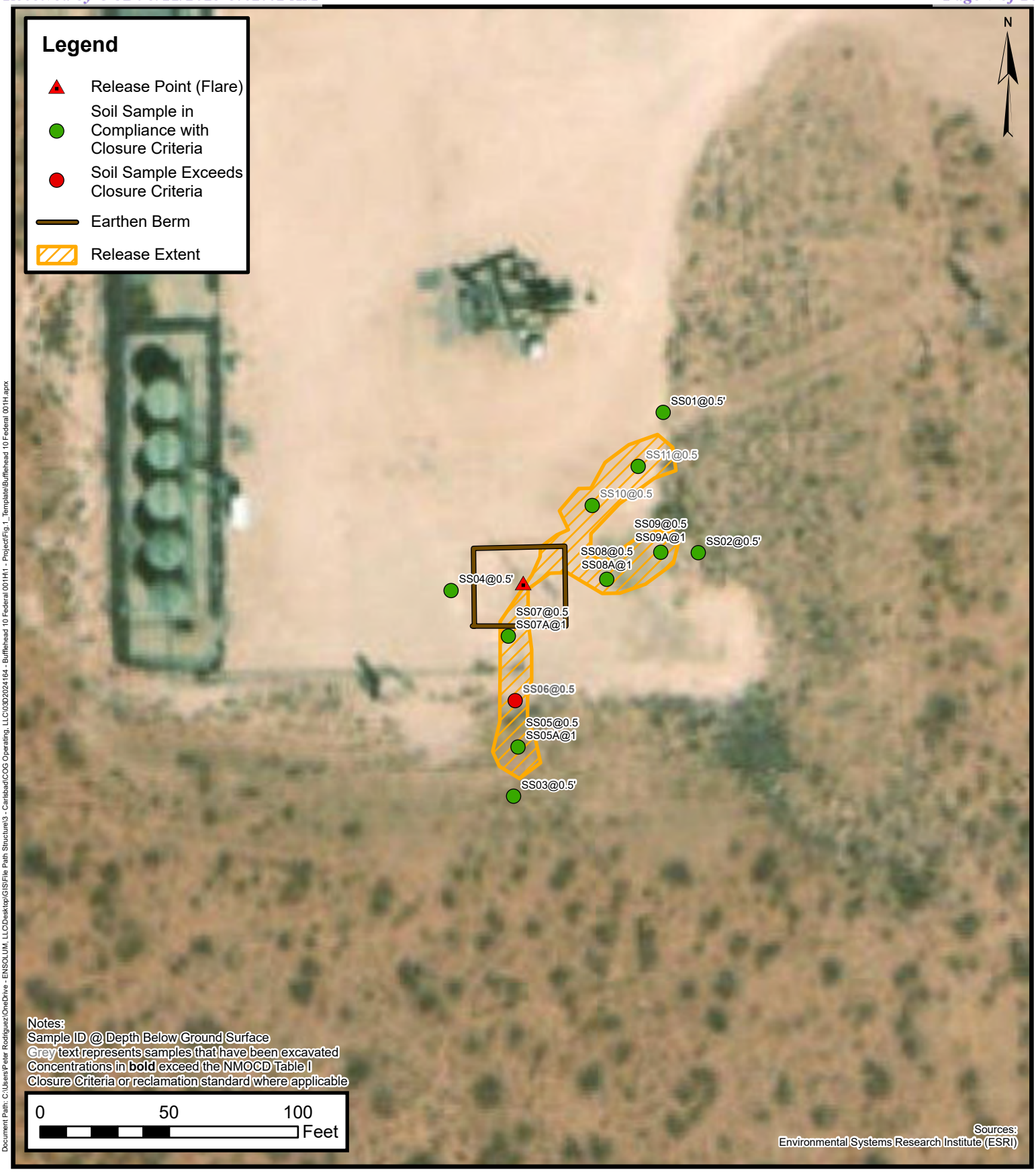
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

COG Operating, LLC
Bufflehead 10 Federal 001H
Incident Number: NAPP2305139488
Unit B, Sec 10, T26S, R32E
Lea County, New Mexico

FIGURE
1



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\COG Operating, LLC\03D2024164 - Bufflehead 10 Federal 001H\1 - Project\Fig 1_Template\Bufflehead 10 Federal 001H.aprx

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Soil Sample Locations

COG Operating, LLC

Bufflehead 10 Federal 001H

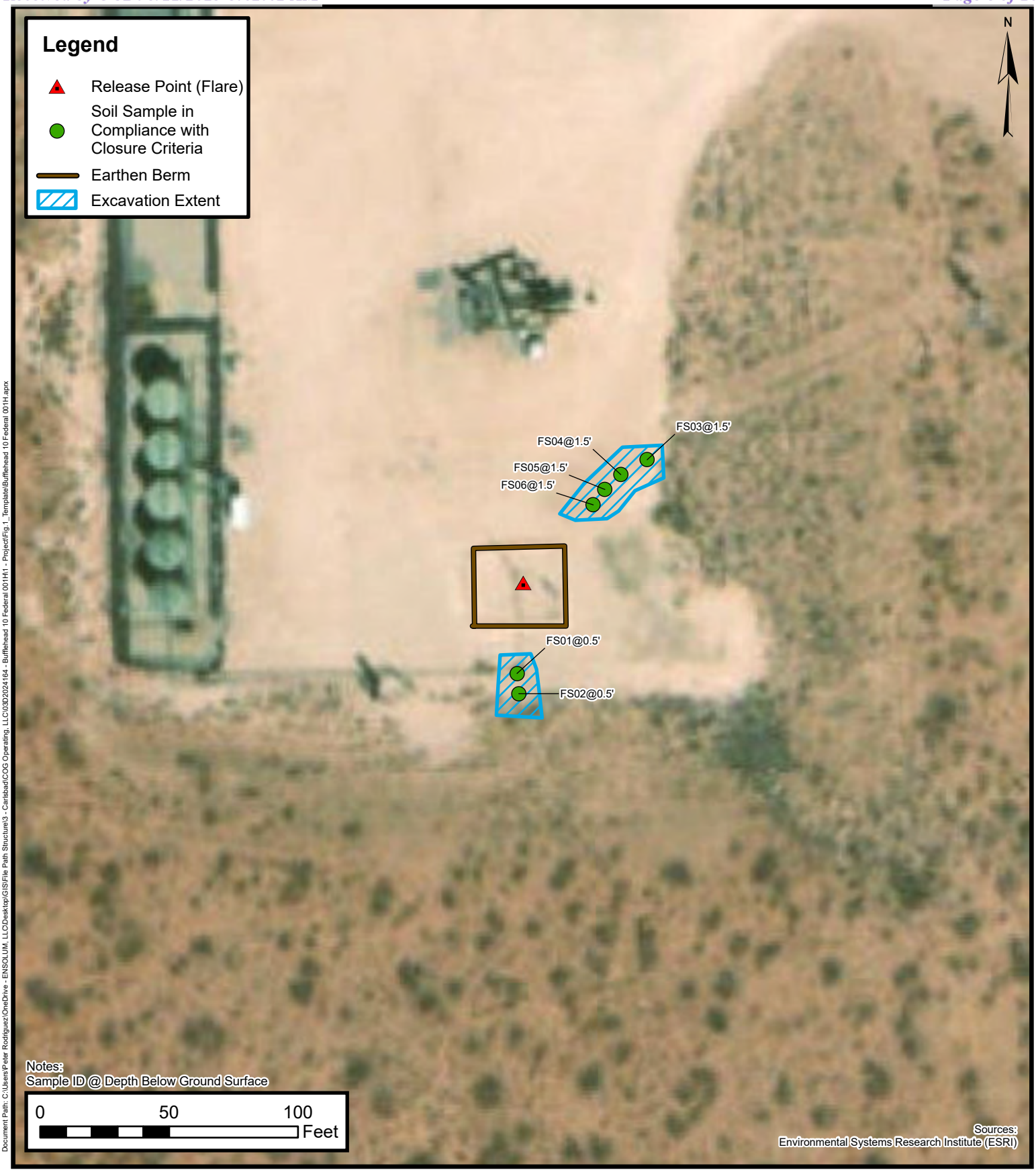
Incident Number: NAPP2305139488

Unit B, Sec 10, T26S, R32E

Lea County, New Mexico

FIGURE

2



Document Path: C:\Users\Peter Rodriguez\OneDrive - ENSOLUM, LLC\Desktop\GIS\File Path Structure\3 - Carlsbad\COG Operating, LLC\03D2024164 - Bufflehead 10 Federal 001H\1 - Project\Fig 1_Template\Bufflehead 10 Federal 001H.aprx

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Excavation Soil Sample Locations

COG Operating, LLC
Bufflehead 10 Federal 001H
Incident Number: NAPP2305139488
Unit B, Sec 10, T26S, R32E
Lea County, New Mexico

FIGURE
3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Bufflehead 10 Federal 001H
COG Operating, LLC
Lea County, New Mexico

Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**20,000**
Soil Samples										
SS01	02/28/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	141
SS02	02/28/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	41.6*
SS03	02/28/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	72.6*
SS04	02/28/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	543
SS05	02/28/2023	0.5	<0.00199	<0.00398	<49.9	96.0	<49.9	96.0	96.0	59.8*
SS05A	03/24/2023	1	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	84.5*
SS06	02/28/2023	0.5	<0.00200	<0.00399	<49.9	**132**	<49.9	132	132	60.0*
SS07	02/28/2023	0.5	<0.00200	<0.00401	<49.9	68.6	<49.9	68.6	68.6	68.5
SS07A	03/24/2023	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	98.6
SS08	02/28/2023	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	129
SS08A	03/24/2023	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	172
SS09	02/28/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	68.8
SS09A	03/24/2023	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	75.5
SS10	02/28/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	918
SS11	02/28/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,040
Excavation Soil Samples										
FS01	03/24/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	72.8
FS02	03/24/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	46.3
FS03	03/24/2023	1.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	177
FS04	03/24/2023	1.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	170
FS05	03/24/2023	1.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	327
FS06	03/24/2023	1.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	291

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

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

Grey *text represents samples that have been excavated*

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

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APPENDIX A

Referenced Well Records

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT AUG 2 2021 PM4:45

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (MW-1)	n/a	C-4549

WELL OWNER NAME(S)	PHONE (OPTIONAL)
BTA Oil Producers	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
104 S. Pecos St.	Midland	TX	79701

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	4	40.92	N
	LONGITUDE	103	37	53.68	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW NW NW Sec. 11 T26S R32E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
07/14/2021	07/14/2021	temporary well material	103	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) — STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	103	±8.5	Boring- HSA	–	–	–	–

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4549	POD NO. 1	TRN NO. 698318	
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA	PAGE 1 OF 2

OSE DIT AUG 2 2021 PM4:45

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Caliche, Consolidated , White	Y ✓ N	
4	9	5	Caliche, Consolidated , with fine-grained, Tan	Y ✓ N	
9	14	5	Caliche, Consolidated , White	Y ✓ N	
14	19	5	Caliche, Consolidated , with fine-grained, Tan	Y ✓ N	
19	69	50	Sand, Fine-grained poorly graded, with caliche , Tanish Brown	Y ✓ N	
69	79	103	Clay, Stiff, High Plasticity, Dark Brown,	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt, Carmelo Trevino

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 07/29/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4549	POD NO. 1	TRN NO. 698318	
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA	PAGE 2 OF 2

National Water Information System: Web Interface

USGS Water Resources

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

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320424103415401

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

USGS 320424103415401 26S.31E.01.421322

Eddy County, New Mexico
Latitude 32°04'24", Longitude 103°41'54" NAD27
Land-surface elevation 3,294 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) 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
1983-01-26		D	62610		3002.25	NGVD29	1	Z			A
1983-01-26		D	62611		3003.88	NAVD88	1	Z			A
1983-01-26		D	72019	290.12			1	Z			A
1983-02-14		D	62610		3002.95	NGVD29	1	Z			A
1983-02-14		D	62611		3004.58	NAVD88	1	Z			A
1983-02-14		D	72019	289.42			1	Z			A
1987-10-21		D	62610		3002.47	NGVD29	1	Z			A
1987-10-21		D	62611		3004.10	NAVD88	1	Z			A
1987-10-21		D	72019	289.90			1	Z			A

Explanation

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

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms

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: 2023-03-01 16:15:33 EST
0.34 0.29 nadww01

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APPENDIX B

Photographic Log

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Photographic Log
COG Operating, LLC
Bufflehead 10 Federal 001H
Incident Number NAPP2305139488

Photograph 1 Date: 2/10/2023
Description: Soil staining identified during initial release
View: Northeast

Photograph 2 Date: 2/28/2023
Description: Initial assessment activities
View: Southeast

Photograph 3 Date: 3/24/2023
Description: Excavation activities
View: North

Photograph 4 Date: 3/24/2023
Description: Excavation activities
View: South

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APPENDIX C

Lithologic Soil Sampling Logs

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	Sample Name: SS05	Date: 4/13/23
	Site Name: Bufflehead 10 Federal 001H	
	Incident Number: NAPP2305139488	
	Job Number: 03D2024164	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ronni Hayes	Method: Backhoe
Coordinates:32.0636258, -103.6595345	Hole Diameter: ~3ft	Total Depth: 1ft

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<173	1.9	Y	SS05	0.5	0.5	SP-SM	SAND, light brown, poorly graded, small pieces of CALICHE gravel, noncohesive
Dry	<173	0.7	N	SS05A	1	1	SP-SM	SAND, brown, poorly graded, noncohesive, small pieces of CALICHE gravel, fine
								TD at 1 ft bgs

ENSOLUM

	Sample Name: SS07	Date: 4/13/23
	Site Name: Bufflehead 10 Federal 001H	
	Incident Number: NAPP2305139488	
	Job Number: 03D2024164	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 32.0637431, -103.6595458	Hole Diameter: ~3ft	Total Depth: 1ft

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<173	1.9	N	SS07	0.5	0.5	GP	CALICHE, no staining, no odor, light tan, poorly graded, poorly sorted, abundant limestone gravel
Dry	<173	1.2	N	SS07A	1	1	SP-SM	SAND, no staining, no odor, medium brown, poorly graded, some limestone gravel
								TD at 1 ft bgs

ENSOLUM

	Sample Name: SS08	Date: 4/13/23
	Site Name: Bufflehead 10 Federal 001H	
	Incident Number: NAPP2305139488	
	Job Number: 03D2024164	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 32.068022, -103.6594219	Hole Diameter: ~3ft	Total Depth: 1ft

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<173	1.7	N	SS08	0.5	0.5	GP	CALICHE, no staining, no odor, light tan, poorly graded, poorly sorted, abundant limestone gravel
Dry	<173	1.4	N	SS08A	1	1	SP-SM	SAND, no staining, no odor, light brown, poorly graded, some limestone gravel
								TD at 1 ft bgs

ENSOLUM

	Sample Name: SS09	Date: 4/13/23
	Site Name: Bufflehead 10 Federal 001H	
	Incident Number: NAPP2305139488	
	Job Number: 03D2024164	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ronni Hayes	Method: Backhoe
Coordinates: 32.0638299, -103.6593543	Hole Diameter: ~3ft	Total Depth: 1ft

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. 40% correction factor included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
Dry	<173	2.5	N	SS09	0.5	0.5	SP-SM	SAND, no staining, no odor, light tan, poorly graded, poorly sorted, abundant limestone gravel
Wet	<173	1.3	N	SS09A	1	1	SP-SM	SAND, no staining, no odor, light brown, poorly graded, some limestone gravel
								TD at 1 ft bgs

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & 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 3/13/2023 7:12:59 PM

JOB DESCRIPTION

Bufflehead 10 Federal 001H
SDG NUMBER 03D2024164

JOB NUMBER

890-4217-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

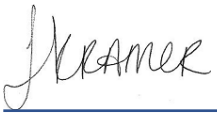
my EOL

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



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3/13/2023 7:12:59 PM

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

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Laboratory Job ID: 890-4217-1
SDG: 03D2024164

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4217-1
Project/Site: Bufflehead 10 Federal 001H SDG: 03D2024164

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
*-	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: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Job ID: 890-4217-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4217-1

Receipt
The samples were received on 3/1/2023 3:37 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 2.6°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4217-1), SS02 (890-4217-2), SS03 (890-4217-3), SS04 (890-4217-4), SS05 (890-4217-5), SS06 (890-4217-6), SS07 (890-4217-7), SS08 (890-4217-8), SS09 (890-4217-9), SS10 (890-4217-10) and SS11 (890-4217-11).

GC VOA
Method 8021B: Surrogate recovery for the following samples were outside control limits: SS02 (890-4217-2), SS05 (890-4217-5), SS06 (890-4217-6), SS07 (890-4217-7) and SS09 (890-4217-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-4217-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS08 (890-4217-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-47811 and analytical batch 880-47830 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-47814 and analytical batch 880-47828 was outside the upper control limits.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS01

Lab Sample ID: 890-4217-1
Matrix: Solid
Date Collected: 02/28/23 11:45
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/10/23 10:17	03/11/23 16:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 16:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 16:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 16:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 16:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*03/10/23 10:17*	*03/11/23 16:33*	*1*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*03/10/23 10:17*	*03/11/23 16:33*	*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			03/13/23 18:16	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			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 11:00	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 11:00	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*03/04/23 11:06*	*03/05/23 11:00*	*1*
o-Terphenyl	*99*		*70 - 130*	*03/04/23 11:06*	*03/05/23 11:00*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**141**		4.98		mg/Kg			03/06/23 20:26	1

Client Sample ID: SS02

Lab Sample ID: 890-4217-2
Matrix: Solid
Date Collected: 02/28/23 11:50
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:54	1
Toluene	**0.00225**		0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/10/23 10:17	03/11/23 16:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/10/23 10:17	03/11/23 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 16:54*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS02

Date Collected: 02/28/23 11:50
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Lab Sample ID: 890-4217-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*03/10/23 10:17*	*03/11/23 16:54*	*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			03/13/23 18:16	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			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/04/23 11:06	03/05/23 12:06	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/04/23 11:06	03/05/23 12:06	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/04/23 11:06	03/05/23 12:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:06*	*1*
o-Terphenyl	*86*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**41.6**		4.95	mg/Kg			03/06/23 20:32	1

Client Sample ID: SS03

Date Collected: 02/28/23 11:55
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Lab Sample ID: 890-4217-3
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		03/10/23 10:17	03/11/23 17:14	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/10/23 10:17	03/11/23 17:14	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/10/23 10:17	03/11/23 17:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/10/23 10:17	03/11/23 17:14	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/10/23 10:17	03/11/23 17:14	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/10/23 10:17	03/11/23 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*03/10/23 10:17*	*03/11/23 17:14*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/10/23 10:17*	*03/11/23 17:14*	*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			03/13/23 18:16	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			03/06/23 13:31	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS03

Lab Sample ID: 890-4217-3
Matrix: Solid
Date Collected: 02/28/23 11:55
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/04/23 11:06	03/05/23 12:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 12:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 12:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:28*	*1*
o-Terphenyl	*87*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72.6**		5.04		mg/Kg			03/06/23 20:20	1

Client Sample ID: SS04

Lab Sample ID: 890-4217-4
Matrix: Solid
Date Collected: 02/28/23 12:00
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/10/23 10:17	03/11/23 17:35	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:35	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:35	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 17:35	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:35	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*134*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 17:35*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/10/23 10:17*	*03/11/23 17:35*	*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			03/13/23 18:16	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			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 12:50	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 12:50	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 12:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:50*	*1*
o-Terphenyl	*90*		*70 - 130*	*03/04/23 11:06*	*03/05/23 12:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS04

Lab Sample ID: 890-4217-4
Matrix: Solid
Date Collected: 02/28/23 12:00
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**543**		24.9		mg/Kg			03/06/23 20:35	5

Client Sample ID: SS05

Lab Sample ID: 890-4217-5
Matrix: Solid
Date Collected: 02/28/23 12:55
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/10/23 10:17	03/11/23 17:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 17:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 17:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 17:56*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*03/10/23 10:17*	*03/11/23 17:56*	*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			03/13/23 18:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**96.0**		49.9		mg/Kg			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 13:12	1
Diesel Range Organics (Over C10-C28)	**96.0**		49.9		mg/Kg		03/04/23 11:06	03/05/23 13:12	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:12*	*1*
o-Terphenyl	*106*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:12*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**59.8**		4.95		mg/Kg			03/06/23 20:40	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS06

Lab Sample ID: 890-4217-6
Matrix: Solid
Date Collected: 02/28/23 13:00
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/10/23 10:17	03/11/23 18:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/10/23 10:17	03/11/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*	*03/10/23 10:17*	*03/11/23 18:16*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*03/10/23 10:17*	*03/11/23 18:16*	*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			03/13/23 18:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**132**		49.9		mg/Kg			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 13:34	1
Diesel Range Organics (Over C10-C28)	**132**		49.9		mg/Kg		03/04/23 11:06	03/05/23 13:34	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:34*	*1*
o-Terphenyl	*119*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60.0**		5.05		mg/Kg			03/06/23 20:45	1

Client Sample ID: SS07

Lab Sample ID: 890-4217-7
Matrix: Solid
Date Collected: 02/28/23 13:05
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:37	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/10/23 10:17	03/11/23 18:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 18:37	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/10/23 10:17	03/11/23 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 18:37*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS07

Date Collected: 02/28/23 13:05
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Lab Sample ID: 890-4217-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*03/10/23 10:17*	*03/11/23 18:37*	*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			03/13/23 18:16	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**68.6**		49.9	mg/Kg			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/04/23 11:06	03/05/23 13:56	1
Diesel Range Organics (Over C10-C28)	**68.6**		49.9	mg/Kg		03/04/23 11:06	03/05/23 13:56	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/04/23 11:06	03/05/23 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:56*	*1*
o-Terphenyl	*95*		*70 - 130*	*03/04/23 11:06*	*03/05/23 13:56*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**68.5**		4.95	mg/Kg			03/06/23 20:49	1

Client Sample ID: SS08

Date Collected: 02/28/23 13:10
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Lab Sample ID: 890-4217-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		03/10/23 10:17	03/11/23 18:58	1
Toluene	<0.00198	U	0.00198	mg/Kg		03/10/23 10:17	03/11/23 18:58	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		03/10/23 10:17	03/11/23 18:58	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		03/10/23 10:17	03/11/23 18:58	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		03/10/23 10:17	03/11/23 18:58	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		03/10/23 10:17	03/11/23 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*132*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 18:58*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/10/23 10:17*	*03/11/23 18:58*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			03/13/23 18:16	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			03/06/23 13:31	1

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Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS08

Lab Sample ID: 890-4217-8
Matrix: Solid
Date Collected: 02/28/23 13:10
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/04/23 11:06	03/05/23 14:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 14:19	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*03/04/23 11:06*	*03/05/23 14:19*	*1*
o-Terphenyl	*91*		*70 - 130*	*03/04/23 11:06*	*03/05/23 14:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**129**		5.00		mg/Kg			03/06/23 21:04	1

Client Sample ID: SS09

Lab Sample ID: 890-4217-9
Matrix: Solid
Date Collected: 02/28/23 13:30
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/10/23 10:17	03/11/23 19:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 19:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*03/10/23 10:17*	*03/11/23 19:19*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*03/10/23 10:17*	*03/11/23 19:19*	*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			03/13/23 18:16	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			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 14:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 14:41	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*03/04/23 11:06*	*03/05/23 14:41*	*1*
o-Terphenyl	*106*		*70 - 130*	*03/04/23 11:06*	*03/05/23 14:41*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS09

Lab Sample ID: 890-4217-9
Matrix: Solid
Date Collected: 02/28/23 13:30
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.8		4.98		mg/Kg			03/06/23 21:09	1

Client Sample ID: SS10

Lab Sample ID: 890-4217-10
Matrix: Solid
Date Collected: 02/28/23 13:35
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

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		03/10/23 10:17	03/11/23 19:39	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:39	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:39	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 19:39	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/10/23 10:17	03/11/23 19:39	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/10/23 10:17	03/11/23 19:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*03/10/23 10:17*	*03/11/23 19:39*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/10/23 10:17*	*03/11/23 19:39*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			03/13/23 18:16	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			03/06/23 13:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 15:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 15:03	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/04/23 11:06	03/05/23 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*03/04/23 11:06*	*03/05/23 15:03*	*1*
o-Terphenyl	*103*		*70 - 130*	*03/04/23 11:06*	*03/05/23 15:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	918		24.9		mg/Kg			03/06/23 21:14	5

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS11

Date Collected: 02/28/23 13:40
Date Received: 03/01/23 15:37
Sample Depth: 0.5'

Lab Sample ID: 890-4217-11

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		03/10/23 10:17	03/11/23 21:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/10/23 10:17	03/11/23 21:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/10/23 10:17	03/11/23 21:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/10/23 10:17	03/11/23 21:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/10/23 10:17	03/11/23 21:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/10/23 10:17	03/11/23 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*03/10/23 10:17*	*03/11/23 21:03*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*03/10/23 10:17*	*03/11/23 21:03*	*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			03/13/23 18:16	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			03/06/23 11:31	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *-	50.0		mg/Kg		03/04/23 10:55	03/05/23 18:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 10:55	03/05/23 18:55	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 10:55	03/05/23 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*03/04/23 10:55*	*03/05/23 18:55*	*1*
o-Terphenyl	*87*		*70 - 130*	*03/04/23 10:55*	*03/05/23 18:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1040**		4.95		mg/Kg			03/06/23 21:19	1

Surrogate Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4217-1	SS01	114	75
890-4217-1 MS	SS01	109	88
890-4217-1 MSD	SS01	112	95
890-4217-2	SS02	137 S1+	88
890-4217-3	SS03	122	89
890-4217-4	SS04	134 S1+	86
890-4217-5	SS05	135 S1+	88
890-4217-6	SS06	126	92
890-4217-7	SS07	135 S1+	95
890-4217-8	SS08	132 S1+	89
890-4217-9	SS09	133 S1+	78
890-4217-10	SS10	129	86
890-4217-11	SS11	120	79
LCS 880-48297/1-A	Lab Control Sample	107	90
LCSD 880-48297/2-A	Lab Control Sample Dup	110	81
MB 880-48297/5-A	Method Blank	97	74

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)
890-4212-A-21-B MS	Matrix Spike	107	96
890-4212-A-21-C MSD	Matrix Spike Duplicate	109	98
890-4217-1	SS01	92	99
890-4217-1 MS	SS01	104	101
890-4217-1 MSD	SS01	101	101
890-4217-2	SS02	83	86
890-4217-3	SS03	83	87
890-4217-4	SS04	84	90
890-4217-5	SS05	101	106
890-4217-6	SS06	113	119
890-4217-7	SS07	86	95
890-4217-8	SS08	83	91
890-4217-9	SS09	101	106
890-4217-10	SS10	99	103
890-4217-11	SS11	92	87
LCS 880-47811/2-A	Lab Control Sample	93	85
LCS 880-47814/2-A	Lab Control Sample	78	83
LCSD 880-47811/3-A	Lab Control Sample Dup	92	84
LCSD 880-47814/3-A	Lab Control Sample Dup	74	80
MB 880-47811/1-A	Method Blank	123	121
MB 880-47814/1-A	Method Blank	121	134 S1+

Surrogate Legend

1CO = 1-Chlorooctane

Surrogate Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-48297/5-A
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 48297

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:11	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:11	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:11	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/10/23 10:17	03/11/23 16:11	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/10/23 10:17	03/11/23 16:11	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/10/23 10:17	03/11/23 16:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*03/10/23 10:17*	*03/11/23 16:11*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*03/10/23 10:17*	*03/11/23 16:11*	*1*

Lab Sample ID: LCS 880-48297/1-A
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 48297

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08334		mg/Kg		83	70 - 130		
Toluene			0.100	0.08468		mg/Kg		85	70 - 130		
Ethylbenzene			0.100	0.08491		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene			0.200	0.1707		mg/Kg		85	70 - 130		
o-Xylene			0.100	0.08548		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-48297/2-A
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 48297

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08459		mg/Kg		85	70 - 130	1	35
Toluene			0.100	0.09247		mg/Kg		92	70 - 130	9	35
Ethylbenzene			0.100	0.09266		mg/Kg		93	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.1833		mg/Kg		92	70 - 130	7	35
o-Xylene			0.100	0.09113		mg/Kg		91	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*

Lab Sample ID: 890-4217-1 MS
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 48297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0996	0.08189		mg/Kg		82	70 - 130		
Toluene	<0.00199	U	0.0996	0.07490		mg/Kg		74	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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

Lab Sample ID: 890-4217-1 MS
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 48297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00199	U	0.0996	0.07343		mg/Kg		74	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1459		mg/Kg		73	70 - 130
o-Xylene	<0.00199	U	0.0996	0.07311		mg/Kg		73	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*

Lab Sample ID: 890-4217-1 MSD
Matrix: Solid
Analysis Batch: 48396

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 48297

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.07988		mg/Kg		80	70 - 130	2	35
Toluene	<0.00199	U	0.0990	0.07572		mg/Kg		75	70 - 130	1	35
Ethylbenzene	<0.00199	U	0.0990	0.07297		mg/Kg		74	70 - 130	1	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1422		mg/Kg		72	70 - 130	3	35
o-Xylene	<0.00199	U	0.0990	0.07360		mg/Kg		74	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

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

Lab Sample ID: MB 880-47811/1-A
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47811

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		03/04/23 10:55	03/05/23 08:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 10:55	03/05/23 08:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 10:55	03/05/23 08:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*03/04/23 10:55*	*03/05/23 08:30*	*1*
o-Terphenyl	*121*		*70 - 130*	*03/04/23 10:55*	*03/05/23 08:30*	*1*

Lab Sample ID: LCS 880-47811/2-A
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47811

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	574.4	*-	mg/Kg		57	70 - 130
Diesel Range Organics (Over C10-C28)			1000	867.5		mg/Kg		87	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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

Lab Sample ID: LCS 880-47811/2-A
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47811

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	85		70 - 130

Lab Sample ID: LCSD 880-47811/3-A
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47811

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	568.0	*-	mg/Kg		57	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	848.8		mg/Kg		85	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	92		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 890-4212-A-21-B MS
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47811

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	773.3		mg/Kg		77	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	998	722.1		mg/Kg		70	70 - 130

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

Lab Sample ID: 890-4212-A-21-C MSD
Matrix: Solid
Analysis Batch: 47830

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 47811

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 *-	999	800.0		mg/Kg		80	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	738.2		mg/Kg		71	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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

Lab Sample ID: MB 880-47814/1-A
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47814

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		03/04/23 11:06	03/05/23 08:24	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 08:24	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/04/23 11:06	03/05/23 08:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*121*		*70 - 130*	*03/04/23 11:06*	*03/05/23 08:24*	*1*
o-Terphenyl	*134*	*S1+*	*70 - 130*	*03/04/23 11:06*	*03/05/23 08:24*	*1*

Lab Sample ID: LCS 880-47814/2-A
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47814

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	880.3		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	892.6		mg/Kg		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*83*		*70 - 130*

Lab Sample ID: LCSD 880-47814/3-A
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47814

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	880.3		mg/Kg		88	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	836.5		mg/Kg		84	70 - 130	6	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*74*		*70 - 130*
o-Terphenyl	*80*		*70 - 130*

Lab Sample ID: 890-4217-1 MS
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 47814

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	997	925.1		mg/Kg		90	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	997	971.0		mg/Kg		96	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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

Lab Sample ID: 890-4217-1 MS
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 47814

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	101		70 - 130

Lab Sample ID: 890-4217-1 MSD
Matrix: Solid
Analysis Batch: 47828

Client Sample ID: SS01
Prep Type: Total/NA
Prep Batch: 47814

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	999	891.4		mg/Kg		87	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	959.8		mg/Kg		94	70 - 130	1	20

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47841/1-A
Matrix: Solid
Analysis Batch: 47995

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			03/06/23 20:06	1

Lab Sample ID: LCS 880-47841/2-A
Matrix: Solid
Analysis Batch: 47995

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.6		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-47841/3-A
Matrix: Solid
Analysis Batch: 47995

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	267.5		mg/Kg		107	90 - 110	0	20

Lab Sample ID: 890-4217-3 MS
Matrix: Solid
Analysis Batch: 47995

Client Sample ID: SS03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	72.6		252	322.5		mg/Kg		99	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4217-3 MSD — **Client Sample ID: SS03**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47995

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	72.6		252	321.9		mg/Kg		99	90 - 110	0	20

Lab Sample ID: MB 880-47840/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47996

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/06/23 19:00	1

Lab Sample ID: LCS 880-47840/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47996

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	241.1		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-47840/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47996

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	241.0		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 890-4216-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47996

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	85.8		252	330.7		mg/Kg		97	90 - 110		

Lab Sample ID: 890-4216-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 47996

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	85.8		252	331.9		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

GC VOA

Prep Batch: 48297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	5035	
890-4217-2	SS02	Total/NA	Solid	5035	
890-4217-3	SS03	Total/NA	Solid	5035	
890-4217-4	SS04	Total/NA	Solid	5035	
890-4217-5	SS05	Total/NA	Solid	5035	
890-4217-6	SS06	Total/NA	Solid	5035	
890-4217-7	SS07	Total/NA	Solid	5035	
890-4217-8	SS08	Total/NA	Solid	5035	
890-4217-9	SS09	Total/NA	Solid	5035	
890-4217-10	SS10	Total/NA	Solid	5035	
890-4217-11	SS11	Total/NA	Solid	5035	
MB 880-48297/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-48297/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-48297/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4217-1 MS	SS01	Total/NA	Solid	5035	
890-4217-1 MSD	SS01	Total/NA	Solid	5035	

Analysis Batch: 48396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	8021B	48297
890-4217-2	SS02	Total/NA	Solid	8021B	48297
890-4217-3	SS03	Total/NA	Solid	8021B	48297
890-4217-4	SS04	Total/NA	Solid	8021B	48297
890-4217-5	SS05	Total/NA	Solid	8021B	48297
890-4217-6	SS06	Total/NA	Solid	8021B	48297
890-4217-7	SS07	Total/NA	Solid	8021B	48297
890-4217-8	SS08	Total/NA	Solid	8021B	48297
890-4217-9	SS09	Total/NA	Solid	8021B	48297
890-4217-10	SS10	Total/NA	Solid	8021B	48297
890-4217-11	SS11	Total/NA	Solid	8021B	48297
MB 880-48297/5-A	Method Blank	Total/NA	Solid	8021B	48297
LCS 880-48297/1-A	Lab Control Sample	Total/NA	Solid	8021B	48297
LCSD 880-48297/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	48297
890-4217-1 MS	SS01	Total/NA	Solid	8021B	48297
890-4217-1 MSD	SS01	Total/NA	Solid	8021B	48297

Analysis Batch: 48545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	Total BTEX	
890-4217-2	SS02	Total/NA	Solid	Total BTEX	
890-4217-3	SS03	Total/NA	Solid	Total BTEX	
890-4217-4	SS04	Total/NA	Solid	Total BTEX	
890-4217-5	SS05	Total/NA	Solid	Total BTEX	
890-4217-6	SS06	Total/NA	Solid	Total BTEX	
890-4217-7	SS07	Total/NA	Solid	Total BTEX	
890-4217-8	SS08	Total/NA	Solid	Total BTEX	
890-4217-9	SS09	Total/NA	Solid	Total BTEX	
890-4217-10	SS10	Total/NA	Solid	Total BTEX	
890-4217-11	SS11	Total/NA	Solid	Total BTEX	

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

GC Semi VOA

Prep Batch: 47811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-11	SS11	Total/NA	Solid	8015NM Prep	
MB 880-47811/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47811/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4212-A-21-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4212-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 47814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	8015NM Prep	
890-4217-2	SS02	Total/NA	Solid	8015NM Prep	
890-4217-3	SS03	Total/NA	Solid	8015NM Prep	
890-4217-4	SS04	Total/NA	Solid	8015NM Prep	
890-4217-5	SS05	Total/NA	Solid	8015NM Prep	
890-4217-6	SS06	Total/NA	Solid	8015NM Prep	
890-4217-7	SS07	Total/NA	Solid	8015NM Prep	
890-4217-8	SS08	Total/NA	Solid	8015NM Prep	
890-4217-9	SS09	Total/NA	Solid	8015NM Prep	
890-4217-10	SS10	Total/NA	Solid	8015NM Prep	
MB 880-47814/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47814/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47814/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4217-1 MS	SS01	Total/NA	Solid	8015NM Prep	
890-4217-1 MSD	SS01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	8015B NM	47814
890-4217-2	SS02	Total/NA	Solid	8015B NM	47814
890-4217-3	SS03	Total/NA	Solid	8015B NM	47814
890-4217-4	SS04	Total/NA	Solid	8015B NM	47814
890-4217-5	SS05	Total/NA	Solid	8015B NM	47814
890-4217-6	SS06	Total/NA	Solid	8015B NM	47814
890-4217-7	SS07	Total/NA	Solid	8015B NM	47814
890-4217-8	SS08	Total/NA	Solid	8015B NM	47814
890-4217-9	SS09	Total/NA	Solid	8015B NM	47814
890-4217-10	SS10	Total/NA	Solid	8015B NM	47814
MB 880-47814/1-A	Method Blank	Total/NA	Solid	8015B NM	47814
LCS 880-47814/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47814
LCSD 880-47814/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47814
890-4217-1 MS	SS01	Total/NA	Solid	8015B NM	47814
890-4217-1 MSD	SS01	Total/NA	Solid	8015B NM	47814

Analysis Batch: 47830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-11	SS11	Total/NA	Solid	8015B NM	47811
MB 880-47811/1-A	Method Blank	Total/NA	Solid	8015B NM	47811
LCS 880-47811/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47811
LCSD 880-47811/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47811
890-4212-A-21-B MS	Matrix Spike	Total/NA	Solid	8015B NM	47811
890-4212-A-21-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47811

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

GC Semi VOA

Analysis Batch: 47904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Total/NA	Solid	8015 NM	
890-4217-2	SS02	Total/NA	Solid	8015 NM	
890-4217-3	SS03	Total/NA	Solid	8015 NM	
890-4217-4	SS04	Total/NA	Solid	8015 NM	
890-4217-5	SS05	Total/NA	Solid	8015 NM	
890-4217-6	SS06	Total/NA	Solid	8015 NM	
890-4217-7	SS07	Total/NA	Solid	8015 NM	
890-4217-8	SS08	Total/NA	Solid	8015 NM	
890-4217-9	SS09	Total/NA	Solid	8015 NM	
890-4217-10	SS10	Total/NA	Solid	8015 NM	
890-4217-11	SS11	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 47840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Soluble	Solid	DI Leach	
890-4217-2	SS02	Soluble	Solid	DI Leach	
MB 880-47840/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47840/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47840/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4216-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4216-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 47841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-3	SS03	Soluble	Solid	DI Leach	
890-4217-4	SS04	Soluble	Solid	DI Leach	
890-4217-5	SS05	Soluble	Solid	DI Leach	
890-4217-6	SS06	Soluble	Solid	DI Leach	
890-4217-7	SS07	Soluble	Solid	DI Leach	
890-4217-8	SS08	Soluble	Solid	DI Leach	
890-4217-9	SS09	Soluble	Solid	DI Leach	
890-4217-10	SS10	Soluble	Solid	DI Leach	
890-4217-11	SS11	Soluble	Solid	DI Leach	
MB 880-47841/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47841/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47841/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4217-3 MS	SS03	Soluble	Solid	DI Leach	
890-4217-3 MSD	SS03	Soluble	Solid	DI Leach	

Analysis Batch: 47995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-3	SS03	Soluble	Solid	300.0	47841
890-4217-4	SS04	Soluble	Solid	300.0	47841
890-4217-5	SS05	Soluble	Solid	300.0	47841
890-4217-6	SS06	Soluble	Solid	300.0	47841
890-4217-7	SS07	Soluble	Solid	300.0	47841
890-4217-8	SS08	Soluble	Solid	300.0	47841
890-4217-9	SS09	Soluble	Solid	300.0	47841
890-4217-10	SS10	Soluble	Solid	300.0	47841

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

HPLC/IC (Continued)

Analysis Batch: 47995 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-11	SS11	Soluble	Solid	300.0	47841
MB 880-47841/1-A	Method Blank	Soluble	Solid	300.0	47841
LCS 880-47841/2-A	Lab Control Sample	Soluble	Solid	300.0	47841
LCSD 880-47841/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47841
890-4217-3 MS	SS03	Soluble	Solid	300.0	47841
890-4217-3 MSD	SS03	Soluble	Solid	300.0	47841

Analysis Batch: 47996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4217-1	SS01	Soluble	Solid	300.0	47840
890-4217-2	SS02	Soluble	Solid	300.0	47840
MB 880-47840/1-A	Method Blank	Soluble	Solid	300.0	47840
LCS 880-47840/2-A	Lab Control Sample	Soluble	Solid	300.0	47840
LCSD 880-47840/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47840
890-4216-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	47840
890-4216-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47840

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS01

Lab Sample ID: 890-4217-1
Matrix: Solid
Date Collected: 02/28/23 11:45
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 16:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 11:00	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 20:26	CH	EET MID

Client Sample ID: SS02

Lab Sample ID: 890-4217-2
Matrix: Solid
Date Collected: 02/28/23 11:50
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 16:54	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 12:06	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 20:32	CH	EET MID

Client Sample ID: SS03

Lab Sample ID: 890-4217-3
Matrix: Solid
Date Collected: 02/28/23 11:55
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 17:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 12:28	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 20:20	CH	EET MID

Client Sample ID: SS04

Lab Sample ID: 890-4217-4
Matrix: Solid
Date Collected: 02/28/23 12:00
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 17:35	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS04
Date Collected: 02/28/23 12:00
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4217-4
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			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 12:50	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		5			47995	03/06/23 20:35	CH	EET MID

Client Sample ID: SS05
Date Collected: 02/28/23 12:55
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4217-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 17:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 13:12	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 20:40	CH	EET MID

Client Sample ID: SS06
Date Collected: 02/28/23 13:00
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4217-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 18:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 13:34	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 20:45	CH	EET MID

Client Sample ID: SS07
Date Collected: 02/28/23 13:05
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4217-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 18:37	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 13:56	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS07

Lab Sample ID: 890-4217-7
Matrix: Solid
Date Collected: 02/28/23 13:05
Date Received: 03/01/23 15:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 20:49	CH	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-4217-8
Matrix: Solid
Date Collected: 02/28/23 13:10
Date Received: 03/01/23 15:37

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 18:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 14:19	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 21:04	CH	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-4217-9
Matrix: Solid
Date Collected: 02/28/23 13:30
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 19:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 14:41	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 21:09	CH	EET MID

Client Sample ID: SS10

Lab Sample ID: 890-4217-10
Matrix: Solid
Date Collected: 02/28/23 13:35
Date Received: 03/01/23 15:37

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	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 19:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 13:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47814	03/04/23 11:06	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47828	03/05/23 15:03	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		5			47995	03/06/23 21:14	CH	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Client Sample ID: SS11

Date Collected: 02/28/23 13:40
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4217-11

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			4.97 g	5 mL	48297	03/10/23 10:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48396	03/11/23 21:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48545	03/13/23 18:16	SM	EET MID
Total/NA	Analysis	8015 NM		1			47904	03/06/23 11:31	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47811	03/04/23 10:55	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47830	03/05/23 18:55	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	47841	03/05/23 14:44	CH	EET MID
Soluble	Analysis	300.0		1			47995	03/06/23 21:19	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: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

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: Bufflehead 10 Federal 001H

Job ID: 890-4217-1
SDG: 03D2024164

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4217-1	SS01	Solid	02/28/23 11:45	03/01/23 15:37	0.5'
890-4217-2	SS02	Solid	02/28/23 11:50	03/01/23 15:37	0.5'
890-4217-3	SS03	Solid	02/28/23 11:55	03/01/23 15:37	0.5'
890-4217-4	SS04	Solid	02/28/23 12:00	03/01/23 15:37	0.5'
890-4217-5	SS05	Solid	02/28/23 12:55	03/01/23 15:37	0.5'
890-4217-6	SS06	Solid	02/28/23 13:00	03/01/23 15:37	0.5'
890-4217-7	SS07	Solid	02/28/23 13:05	03/01/23 15:37	0.5'
890-4217-8	SS08	Solid	02/28/23 13:10	03/01/23 15:37	0.5'
890-4217-9	SS09	Solid	02/28/23 13:30	03/01/23 15:37	0.5'
890-4217-10	SS10	Solid	02/28/23 13:35	03/01/23 15:37	0.5'
890-4217-11	SS11	Solid	02/28/23 13:40	03/01/23 15:37	0.5'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 2

Project Manager:	Hadlie Green	Bill to: (if different)	Hadlie Green
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:	432-557-8895	Email:	hgreen@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:	Bufflehead 10 Federal 001H	Turn Around	
Project Number:	03D2024164	☑ Routine ☐ Rush	
Project Location:	32.0636,-103.6594	Due Date:	
Sampler's Name:	Peter Van Patten	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:	TDN-007
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.3
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	2.8
Total Containers:		Corrected Temperature:	2.6

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS01	Soil	2/28/2023	1145	0.5'	Comp	1		x	x	x	
SS02	Soil	2/28/2023	1150	0.5'	Comp	1		x	x	x	
SS03	Soil	2/28/2023	1155	0.5'	Comp	1		x	x	x	
SS04	Soil	2/28/2023	1200	0.5'	Comp	1		x	x	x	
SS05	Soil	2/28/2023	1255	0.5'	Comp	1		x	x	x	
SS06	Soil	2/28/2023	1300	0.5'	Comp	1		x	x	x	
SS07	Soil	2/28/2023	1305	0.5'	Comp	1		x	x	x	
SS08	Soil	2/28/2023	1310	0.5'	Comp	1		x	x	x	
SS09	Soil	2/28/2023	1330	0.5'	Comp	1		x	x	x	
SS10	Soil	2/28/2023	1335	0.5'	Comp	1		x	x	x	

890-4217 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
Peter Van Patten	Ensolum Staff	3-1-23 1537	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Hadlie Green	Bill to: (if different)	Hadlie Green
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:	432-557-8895	Email:	hgreen@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:	Bufflehead 10 Federal 001H	Turn Around	
Project Number:	03D2024164	☑ Routine ☐ Rush	
Project Location:	32.0636,-103.6594	Due Date:	
Sampler's Name:	Peter Van Patten	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

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

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
SS11	Soil	2/28/2023	1340	0.5'	Comp	1		x	x	x	

Parameters

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Peter Van Patten	Amanda Walker	3-1-23 1537			
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4217-1
SDG Number: 03D2024164

Login Number: 4217
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4217-1
SDG Number: 03D2024164

Login Number: 4217
List Number: 2
Creator: Johnson, Allison

List Source: Eurofins Midland
List Creation: 03/04/23 11:01 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/6/2023 10:24:25 AM

JOB DESCRIPTION

Bufflehead 10 Federal 001H
SDG NUMBER 03D2024164

JOB NUMBER

880-26438-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

Eurofins Midland

Job Notes

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

Authorization

Generated
4/6/2023 10:24:25 AM

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

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Laboratory Job ID: 880-26438-1
SDG: 03D2024164

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-26438-1
Project/Site: Bufflehead 10 Federal 001H SDG: 03D2024164

Qualifiers

GC VOA

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

HPLC/IC

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

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Job ID: 880-26438-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-26438-1

Receipt
The samples were received on 3/24/2023 3:27 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 1.0°C

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-50003/2-A) and (LCSD 880-50003/3-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-26432-A-4-C MS) and (880-26432-A-4-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The laboratory control sample (LCS) associated with preparation batch 880-50003 and analytical batch 880-49993 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

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

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

General Chemistry
Method 9045D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: FS01 (880-26438-1), FS02 (880-26438-2), FS03 (880-26438-3), FS04 (880-26438-4), FS05 (880-26438-5), FS06 (880-26438-6), SS05A (880-26438-7), SS07A (880-26438-8), SS08A (880-26438-9) and SS09A (880-26438-10).

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: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS01

Lab Sample ID: 880-26438-1
Matrix: Solid
Date Collected: 03/24/23 09:45
Date Received: 03/24/23 15:27
Sample Depth: 0.5'

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		03/30/23 10:55	04/03/23 17:49	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 17:49	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 17:49	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/30/23 10:55	04/03/23 17:49	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 17:49	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/30/23 10:55	04/03/23 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*03/30/23 10:55*	*04/03/23 17:49*	*1*
1,4-Difluorobenzene (Surr)	*81*		*70 - 130*	*03/30/23 10:55*	*04/03/23 17:49*	*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			04/04/23 10:43	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			04/03/23 10:59	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	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:28	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:28	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*03/31/23 08:54*	*04/01/23 00:28*	*1*
o-Terphenyl	*74*		*70 - 130*	*03/31/23 08:54*	*04/01/23 00:28*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**72.8**		4.95		mg/Kg			04/05/23 21:04	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**22.3**	**HF**	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**8.1**	**HF**	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: FS02

Lab Sample ID: 880-26438-2
Matrix: Solid
Date Collected: 03/24/23 09:50
Date Received: 03/24/23 15:27
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 18:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 18:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 18:16	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		03/30/23 10:55	04/03/23 18:16	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS02

Lab Sample ID: 880-26438-2
Matrix: Solid
Date Collected: 03/24/23 09:50
Date Received: 03/24/23 15:27
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 18:16	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		03/30/23 10:55	04/03/23 18:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*03/30/23 10:55*	*04/03/23 18:16*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*03/30/23 10:55*	*04/03/23 18:16*	*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			04/04/23 10:43	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			04/03/23 10:59	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	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:49	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:49	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*03/31/23 08:54*	*04/01/23 00:49*	*1*
o-Terphenyl	*74*		*70 - 130*	*03/31/23 08:54*	*04/01/23 00:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46.3**		5.02		mg/Kg			04/05/23 21:19	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**22.9**	**HF**	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**8.5**	**HF**	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: FS03

Lab Sample ID: 880-26438-3
Matrix: Solid
Date Collected: 03/24/23 13:00
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/30/23 10:55	04/03/23 18:42	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/30/23 10:55	04/03/23 18:42	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/30/23 10:55	04/03/23 18:42	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/30/23 10:55	04/03/23 18:42	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/30/23 10:55	04/03/23 18:42	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/30/23 10:55	04/03/23 18:42	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS03

Lab Sample ID: 880-26438-3
Matrix: Solid
Date Collected: 03/24/23 13:00
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*03/30/23 10:55*	*04/03/23 18:42*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*03/30/23 10:55*	*04/03/23 18:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			04/04/23 10:43	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			04/03/23 10:59	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	<49.9	U	49.9	mg/Kg		03/31/23 08:54	04/01/23 01:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9	mg/Kg		03/31/23 08:54	04/01/23 01:11	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/31/23 08:54	04/01/23 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*112*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:11*	*1*
o-Terphenyl	*88*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**177**		5.00	mg/Kg			04/05/23 21:23	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**23.0**	**HF**	0.01	Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**8.6**	**HF**	0.01	S.U.			03/31/23 17:55	1

Client Sample ID: FS04

Lab Sample ID: 880-26438-4
Matrix: Solid
Date Collected: 03/24/23 13:05
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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		03/30/23 10:55	04/03/23 19:09	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 19:09	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 19:09	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/30/23 10:55	04/03/23 19:09	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 19:09	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/30/23 10:55	04/03/23 19:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*03/30/23 10:55*	*04/03/23 19:09*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*03/30/23 10:55*	*04/03/23 19:09*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS04

Lab Sample ID: 880-26438-4
Matrix: Solid
Date Collected: 03/24/23 13:05
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			04/04/23 10:43	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			04/03/23 10:59	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	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 01:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U *-	50.0		mg/Kg		03/31/23 08:54	04/01/23 01:32	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:32*	*1*
o-Terphenyl	*91*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**170**		5.00		mg/Kg			04/05/23 21:28	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**23.1**	**HF**	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**8.9**	**HF**	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: FS05

Lab Sample ID: 880-26438-5
Matrix: Solid
Date Collected: 03/24/23 13:10
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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		03/30/23 10:55	04/03/23 19:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 19:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 19:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 19:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 19:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*03/30/23 10:55*	*04/03/23 19:36*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*03/30/23 10:55*	*04/03/23 19:36*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			04/04/23 10:43	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS05

Lab Sample ID: 880-26438-5
Matrix: Solid
Date Collected: 03/24/23 13:10
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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			04/03/23 10:59	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	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 01:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9		mg/Kg		03/31/23 08:54	04/01/23 01:53	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*111*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:53*	*1*
o-Terphenyl	*87*		*70 - 130*	*03/31/23 08:54*	*04/01/23 01:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**327**		5.05		mg/Kg			04/05/23 21:33	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**22.8**	**HF**	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**9.0**	**HF**	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: FS06

Lab Sample ID: 880-26438-6
Matrix: Solid
Date Collected: 03/24/23 13:15
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 20:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 20:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 20:02	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		03/30/23 10:55	04/03/23 20:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 20:02	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		03/30/23 10:55	04/03/23 20:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*03/30/23 10:55*	*04/03/23 20:02*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/30/23 10:55*	*04/03/23 20:02*	*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			04/04/23 10:43	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			04/03/23 10:59	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS06

Lab Sample ID: 880-26438-6
Matrix: Solid
Date Collected: 03/24/23 13:15
Date Received: 03/24/23 15:27
Sample Depth: 1.5'

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		03/31/23 08:54	04/01/23 02:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9		mg/Kg		03/31/23 08:54	04/01/23 02:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*03/31/23 08:54*	*04/01/23 02:35*	*1*
o-Terphenyl	*73*		*70 - 130*	*03/31/23 08:54*	*04/01/23 02:35*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**291**		5.00		mg/Kg			04/05/23 21:38	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	**22.7**	**HF**	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	**9.2**	**HF**	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: SS05A

Lab Sample ID: 880-26438-7
Matrix: Solid
Date Collected: 03/24/23 09:55
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

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		03/30/23 10:55	04/03/23 20:28	1
Toluene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 20:28	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 20:28	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		03/30/23 10:55	04/03/23 20:28	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		03/30/23 10:55	04/03/23 20:28	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		03/30/23 10:55	04/03/23 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*03/30/23 10:55*	*04/03/23 20:28*	*1*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*	*03/30/23 10:55*	*04/03/23 20:28*	*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			04/04/23 10:43	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			04/03/23 10:59	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	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 02:57	1
Diesel Range Organics (Over C10-C28)	<49.9	U *-	49.9		mg/Kg		03/31/23 08:54	04/01/23 02:57	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		03/31/23 08:54	04/01/23 02:57	1

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Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: SS05A

Lab Sample ID: 880-26438-7
Matrix: Solid

Date Collected: 03/24/23 09:55
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130	03/31/23 08:54	04/01/23 02:57	1
o-Terphenyl	73		70 - 130	03/31/23 08:54	04/01/23 02:57	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	84.5		5.01	mg/Kg			04/05/23 21:43	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	22.7	HF	0.01	Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	8.4	HF	0.01	S.U.			03/31/23 17:55	1

Client Sample ID: SS07A

Lab Sample ID: 880-26438-8
Matrix: Solid

Date Collected: 03/24/23 10:00
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

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		03/30/23 10:55	04/03/23 20:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 20:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 20:55	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/30/23 10:55	04/03/23 20:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 20:55	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/30/23 10:55	04/03/23 20:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	03/30/23 10:55	04/03/23 20:55	1
1,4-Difluorobenzene (Surr)	87		70 - 130	03/30/23 10:55	04/03/23 20:55	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			04/04/23 10:43	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			04/03/23 10:59	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	<50.0	U	50.0	mg/Kg		03/31/23 08:54	04/01/23 03:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U *-	50.0	mg/Kg		03/31/23 08:54	04/01/23 03:18	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/31/23 08:54	04/01/23 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	114		70 - 130	03/31/23 08:54	04/01/23 03:18	1
o-Terphenyl	91		70 - 130	03/31/23 08:54	04/01/23 03:18	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: SS07A

Lab Sample ID: 880-26438-8
Matrix: Solid
Date Collected: 03/24/23 10:00
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98.6		4.99		mg/Kg			04/05/23 21:57	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	22.9	HF	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	8.7	HF	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: SS08A

Lab Sample ID: 880-26438-9
Matrix: Solid
Date Collected: 03/24/23 10:05
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

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		03/30/23 10:55	04/03/23 21:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 21:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*03/30/23 10:55*	*04/03/23 21:22*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/30/23 10:55*	*04/03/23 21:22*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			04/04/23 10:43	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			04/03/23 10:59	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	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 03:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U *-	50.0		mg/Kg		03/31/23 08:54	04/01/23 03:40	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*95*		*70 - 130*	*03/31/23 08:54*	*04/01/23 03:40*	*1*
o-Terphenyl	*72*		*70 - 130*	*03/31/23 08:54*	*04/01/23 03:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	172		4.96		mg/Kg			04/05/23 22:02	1

Client Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: SS08A

Lab Sample ID: 880-26438-9
Matrix: Solid
Date Collected: 03/24/23 10:05
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	22.7	HF	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	9.6	HF	0.01		S.U.			03/31/23 17:55	1

Client Sample ID: SS09A

Lab Sample ID: 880-26438-10
Matrix: Solid
Date Collected: 03/24/23 10:10
Date Received: 03/24/23 15:27
Sample Depth: 1.0'

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		03/30/23 10:55	04/03/23 21:48	1
Toluene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:48	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:48	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 21:48	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		03/30/23 10:55	04/03/23 21:48	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		03/30/23 10:55	04/03/23 21:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*03/30/23 10:55*	*04/03/23 21:48*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*03/30/23 10:55*	*04/03/23 21:48*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			04/04/23 10:43	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			04/03/23 10:59	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	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 04:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U *-	50.0		mg/Kg		03/31/23 08:54	04/01/23 04:01	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/31/23 08:54	04/01/23 04:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*03/31/23 08:54*	*04/01/23 04:01*	*1*
o-Terphenyl	*89*		*70 - 130*	*03/31/23 08:54*	*04/01/23 04:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	75.5		4.96		mg/Kg			04/05/23 22:17	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Temperature (SW846 9045D)	22.7	HF	0.01		Deg. C			03/31/23 17:55	1
Soil pH in Water (SW846 9045D)	8.6	HF	0.01		S.U.			03/31/23 17:55	1

Surrogate Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

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)
880-26438-1	FS01	107	81
880-26438-2	FS02	119	87
880-26438-3	FS03	112	93
880-26438-4	FS04	123	89
880-26438-5	FS05	113	82
880-26438-6	FS06	117	86
880-26438-7	SS05A	117	76
880-26438-8	SS07A	117	87
880-26438-9	SS08A	122	86
880-26438-10	SS09A	121	91
LCS 880-49926/1-A	Lab Control Sample	87	85
LCSD 880-49926/2-A	Lab Control Sample Dup	91	87
MB 880-49926/5-A	Method Blank	71	86

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)
880-26438-1	FS01	96	74
880-26438-2	FS02	95	74
880-26438-3	FS03	112	88
880-26438-4	FS04	115	91
880-26438-5	FS05	111	87
880-26438-6	FS06	96	73
880-26438-7	SS05A	94	73
880-26438-8	SS07A	114	91
880-26438-9	SS08A	95	72
880-26438-10	SS09A	112	89
LCS 880-50003/2-A	Lab Control Sample	81	61 S1-
LCSD 880-50003/3-A	Lab Control Sample Dup	71	56 S1-
MB 880-50003/1-A	Method Blank	113	89

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49926/5-A
Matrix: Solid
Analysis Batch: 50120

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49926

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 11:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 11:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 11:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/30/23 10:55	04/03/23 11:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/30/23 10:55	04/03/23 11:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/30/23 10:55	04/03/23 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*	*03/30/23 10:55*	*04/03/23 11:40*	*1*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*	*03/30/23 10:55*	*04/03/23 11:40*	*1*

Lab Sample ID: LCS 880-49926/1-A
Matrix: Solid
Analysis Batch: 50120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49926

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1258		mg/Kg		125	70 - 130		
Toluene			0.101	0.1090		mg/Kg		108	70 - 130		
Ethylbenzene			0.100	0.1120		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.201	0.2274		mg/Kg		113	70 - 130		
o-Xylene			0.101	0.1136		mg/Kg		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: LCSD 880-49926/2-A
Matrix: Solid
Analysis Batch: 50120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49926

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1074		mg/Kg		107	70 - 130	16	35
Toluene			0.101	0.1032		mg/Kg		103	70 - 130	5	35
Ethylbenzene			0.100	0.1040		mg/Kg		104	70 - 130	7	35
m-Xylene & p-Xylene			0.201	0.2110		mg/Kg		105	70 - 130	7	35
o-Xylene			0.101	0.1053		mg/Kg		105	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

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

Lab Sample ID: MB 880-50003/1-A
Matrix: Solid
Analysis Batch: 49993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50003

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		03/31/23 08:54	03/31/23 20:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/31/23 08:54	03/31/23 20:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/31/23 08:54	03/31/23 20:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*03/31/23 08:54*	*03/31/23 20:55*	*1*
o-Terphenyl	*89*		*70 - 130*	*03/31/23 08:54*	*03/31/23 20:55*	*1*

Lab Sample ID: LCS 880-50003/2-A
Matrix: Solid
Analysis Batch: 49993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50003

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1116		mg/Kg		112	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	693.4	*-	mg/Kg		69	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*81*		*70 - 130*
o-Terphenyl	*61*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-50003/3-A
Matrix: Solid
Analysis Batch: 49993

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50003

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	964.7		mg/Kg		96	70 - 130	15	20
Diesel Range Organics (Over C10-C28)			1000	614.8	*-	mg/Kg		61	70 - 130	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*71*		*70 - 130*
o-Terphenyl	*56*	*S1-*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50171/1-A
Matrix: Solid
Analysis Batch: 50436

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			04/05/23 20:21	1

QC Sample Results

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-50171/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50436

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.0		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-50171/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50436

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	254.2		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-26438-7 MS — **Client Sample ID: SS05A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	84.5		251	351.3		mg/Kg		107	90 - 110		

Lab Sample ID: 880-26438-7 MSD — **Client Sample ID: SS05A**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50436

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	84.5		251	350.7		mg/Kg		106	90 - 110	0	20

Method: 9045D - pH

Lab Sample ID: 880-26438-1 DU — **Client Sample ID: FS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50131

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Temperature	22.3	HF		22.4		Deg. C				0.4	20
Soil pH in Water	8.1	HF		8.1		S.U.				0	10

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

GC VOA

Prep Batch: 49926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	5035	
880-26438-2	FS02	Total/NA	Solid	5035	
880-26438-3	FS03	Total/NA	Solid	5035	
880-26438-4	FS04	Total/NA	Solid	5035	
880-26438-5	FS05	Total/NA	Solid	5035	
880-26438-6	FS06	Total/NA	Solid	5035	
880-26438-7	SS05A	Total/NA	Solid	5035	
880-26438-8	SS07A	Total/NA	Solid	5035	
880-26438-9	SS08A	Total/NA	Solid	5035	
880-26438-10	SS09A	Total/NA	Solid	5035	
MB 880-49926/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49926/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49926/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 50120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	8021B	49926
880-26438-2	FS02	Total/NA	Solid	8021B	49926
880-26438-3	FS03	Total/NA	Solid	8021B	49926
880-26438-4	FS04	Total/NA	Solid	8021B	49926
880-26438-5	FS05	Total/NA	Solid	8021B	49926
880-26438-6	FS06	Total/NA	Solid	8021B	49926
880-26438-7	SS05A	Total/NA	Solid	8021B	49926
880-26438-8	SS07A	Total/NA	Solid	8021B	49926
880-26438-9	SS08A	Total/NA	Solid	8021B	49926
880-26438-10	SS09A	Total/NA	Solid	8021B	49926
MB 880-49926/5-A	Method Blank	Total/NA	Solid	8021B	49926
LCS 880-49926/1-A	Lab Control Sample	Total/NA	Solid	8021B	49926
LCSD 880-49926/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49926

Analysis Batch: 50310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	Total BTEX	
880-26438-2	FS02	Total/NA	Solid	Total BTEX	
880-26438-3	FS03	Total/NA	Solid	Total BTEX	
880-26438-4	FS04	Total/NA	Solid	Total BTEX	
880-26438-5	FS05	Total/NA	Solid	Total BTEX	
880-26438-6	FS06	Total/NA	Solid	Total BTEX	
880-26438-7	SS05A	Total/NA	Solid	Total BTEX	
880-26438-8	SS07A	Total/NA	Solid	Total BTEX	
880-26438-9	SS08A	Total/NA	Solid	Total BTEX	
880-26438-10	SS09A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 49993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	8015B NM	50003
880-26438-2	FS02	Total/NA	Solid	8015B NM	50003
880-26438-3	FS03	Total/NA	Solid	8015B NM	50003
880-26438-4	FS04	Total/NA	Solid	8015B NM	50003

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

GC Semi VOA (Continued)

Analysis Batch: 49993 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-5	FS05	Total/NA	Solid	8015B NM	50003
880-26438-6	FS06	Total/NA	Solid	8015B NM	50003
880-26438-7	SS05A	Total/NA	Solid	8015B NM	50003
880-26438-8	SS07A	Total/NA	Solid	8015B NM	50003
880-26438-9	SS08A	Total/NA	Solid	8015B NM	50003
880-26438-10	SS09A	Total/NA	Solid	8015B NM	50003
MB 880-50003/1-A	Method Blank	Total/NA	Solid	8015B NM	50003
LCS 880-50003/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50003
LCSD 880-50003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50003

Prep Batch: 50003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	8015NM Prep	
880-26438-2	FS02	Total/NA	Solid	8015NM Prep	
880-26438-3	FS03	Total/NA	Solid	8015NM Prep	
880-26438-4	FS04	Total/NA	Solid	8015NM Prep	
880-26438-5	FS05	Total/NA	Solid	8015NM Prep	
880-26438-6	FS06	Total/NA	Solid	8015NM Prep	
880-26438-7	SS05A	Total/NA	Solid	8015NM Prep	
880-26438-8	SS07A	Total/NA	Solid	8015NM Prep	
880-26438-9	SS08A	Total/NA	Solid	8015NM Prep	
880-26438-10	SS09A	Total/NA	Solid	8015NM Prep	
MB 880-50003/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50003/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Total/NA	Solid	8015 NM	
880-26438-2	FS02	Total/NA	Solid	8015 NM	
880-26438-3	FS03	Total/NA	Solid	8015 NM	
880-26438-4	FS04	Total/NA	Solid	8015 NM	
880-26438-5	FS05	Total/NA	Solid	8015 NM	
880-26438-6	FS06	Total/NA	Solid	8015 NM	
880-26438-7	SS05A	Total/NA	Solid	8015 NM	
880-26438-8	SS07A	Total/NA	Solid	8015 NM	
880-26438-9	SS08A	Total/NA	Solid	8015 NM	
880-26438-10	SS09A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Soluble	Solid	DI Leach	
880-26438-2	FS02	Soluble	Solid	DI Leach	
880-26438-3	FS03	Soluble	Solid	DI Leach	
880-26438-4	FS04	Soluble	Solid	DI Leach	
880-26438-5	FS05	Soluble	Solid	DI Leach	
880-26438-6	FS06	Soluble	Solid	DI Leach	
880-26438-7	SS05A	Soluble	Solid	DI Leach	
880-26438-8	SS07A	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

HPLC/IC (Continued)

Leach Batch: 50171 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-9	SS08A	Soluble	Solid	DI Leach	
880-26438-10	SS09A	Soluble	Solid	DI Leach	
MB 880-50171/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50171/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50171/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-26438-7 MS	SS05A	Soluble	Solid	DI Leach	
880-26438-7 MSD	SS05A	Soluble	Solid	DI Leach	

Analysis Batch: 50436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Soluble	Solid	300.0	50171
880-26438-2	FS02	Soluble	Solid	300.0	50171
880-26438-3	FS03	Soluble	Solid	300.0	50171
880-26438-4	FS04	Soluble	Solid	300.0	50171
880-26438-5	FS05	Soluble	Solid	300.0	50171
880-26438-6	FS06	Soluble	Solid	300.0	50171
880-26438-7	SS05A	Soluble	Solid	300.0	50171
880-26438-8	SS07A	Soluble	Solid	300.0	50171
880-26438-9	SS08A	Soluble	Solid	300.0	50171
880-26438-10	SS09A	Soluble	Solid	300.0	50171
MB 880-50171/1-A	Method Blank	Soluble	Solid	300.0	50171
LCS 880-50171/2-A	Lab Control Sample	Soluble	Solid	300.0	50171
LCSD 880-50171/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50171
880-26438-7 MS	SS05A	Soluble	Solid	300.0	50171
880-26438-7 MSD	SS05A	Soluble	Solid	300.0	50171

General Chemistry

Leach Batch: 50054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Soluble	Solid	DI Leach	
880-26438-2	FS02	Soluble	Solid	DI Leach	
880-26438-3	FS03	Soluble	Solid	DI Leach	
880-26438-4	FS04	Soluble	Solid	DI Leach	
880-26438-5	FS05	Soluble	Solid	DI Leach	
880-26438-6	FS06	Soluble	Solid	DI Leach	
880-26438-7	SS05A	Soluble	Solid	DI Leach	
880-26438-8	SS07A	Soluble	Solid	DI Leach	
880-26438-9	SS08A	Soluble	Solid	DI Leach	
880-26438-10	SS09A	Soluble	Solid	DI Leach	
880-26438-1 DU	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 50131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-1	FS01	Soluble	Solid	9045D	50054
880-26438-2	FS02	Soluble	Solid	9045D	50054
880-26438-3	FS03	Soluble	Solid	9045D	50054
880-26438-4	FS04	Soluble	Solid	9045D	50054
880-26438-5	FS05	Soluble	Solid	9045D	50054
880-26438-6	FS06	Soluble	Solid	9045D	50054
880-26438-7	SS05A	Soluble	Solid	9045D	50054

QC Association Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

General Chemistry (Continued)

Analysis Batch: 50131 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26438-8	SS07A	Soluble	Solid	9045D	50054
880-26438-9	SS08A	Soluble	Solid	9045D	50054
880-26438-10	SS09A	Soluble	Solid	9045D	50054
880-26438-1 DU	FS01	Soluble	Solid	9045D	50054

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS01

Lab Sample ID: 880-26438-1
Matrix: Solid
Date Collected: 03/24/23 09:45
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 17:49
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 00:28
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:04
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:01
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: FS02

Lab Sample ID: 880-26438-2
Matrix: Solid
Date Collected: 03/24/23 09:50
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 18:16
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 00:49
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:19
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:01
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: FS03

Lab Sample ID: 880-26438-3
Matrix: Solid
Date Collected: 03/24/23 13:00
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 18:42
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 01:11
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:23
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:01
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: FS04

Lab Sample ID: 880-26438-4
Matrix: Solid
Date Collected: 03/24/23 13:05
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 19:09
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 01:32
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:28
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:01
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: FS05

Lab Sample ID: 880-26438-5
Matrix: Solid
Date Collected: 03/24/23 13:10
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 19:36
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 01:53
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:33
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: FS06

Lab Sample ID: 880-26438-6
Matrix: Solid
Date Collected: 03/24/23 13:15
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 20:02
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 02:35
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:38
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: SS05A

Lab Sample ID: 880-26438-7
Matrix: Solid
Date Collected: 03/24/23 09:55
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 20:28
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 02:57
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:43
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: SS07A

Lab Sample ID: 880-26438-8
Matrix: Solid
Date Collected: 03/24/23 10:00
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 20:55
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 03:18
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 21:57
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Client Sample ID: SS08A

Lab Sample ID: 880-26438-9
Matrix: Solid
Date Collected: 03/24/23 10:05
Date Received: 03/24/23 15:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 21:22
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 03:40
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 22:02
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Lab Chronicle

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Client Sample ID: SS09A

Date Collected: 03/24/23 10:10
Date Received: 03/24/23 15:27

Lab Sample ID: 880-26438-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 21:48
Total/NA	Analysis	Total BTEX		1	50310	AJ	EET MID	04/04/23 10:43
Total/NA	Analysis	8015 NM		1	50162	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 04:01
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 22:17
Soluble	Leach	DI Leach			50054	SMC	EET MID	03/31/23 16:02
Soluble	Analysis	9045D		1	50131	SMC	EET MID	03/31/23 17:55

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

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
9045D		Solid	Temperature
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

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
9045D	pH	SW846	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: Bufflehead 10 Federal 001H

Job ID: 880-26438-1
SDG: 03D2024164

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-26438-1	FS01	Solid	03/24/23 09:45	03/24/23 15:27	0.5'
880-26438-2	FS02	Solid	03/24/23 09:50	03/24/23 15:27	0.5'
880-26438-3	FS03	Solid	03/24/23 13:00	03/24/23 15:27	1.5'
880-26438-4	FS04	Solid	03/24/23 13:05	03/24/23 15:27	1.5'
880-26438-5	FS05	Solid	03/24/23 13:10	03/24/23 15:27	1.5'
880-26438-6	FS06	Solid	03/24/23 13:15	03/24/23 15:27	1.5'
880-26438-7	SS05A	Solid	03/24/23 09:55	03/24/23 15:27	1.0'
880-26438-8	SS07A	Solid	03/24/23 10:00	03/24/23 15:27	1.0'
880-26438-9	SS08A	Solid	03/24/23 10:05	03/24/23 15:27	1.0'
880-26438-10	SS09A	Solid	03/24/23 10:10	03/24/23 15:27	1.0'

eurofins

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: 26438

www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to (if different)	Hadlie Green
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:	432-557-8895	Email:	hgreen@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.	Bufflehead 10 Federal 001H	Turn Around	☑ Routine ☐ Rush
Project Number:	03D2024164	Due Date:	
Project Location	32 0636,-103 6594	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.	IIVM007
Cooler Custody Seals.	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals.	Yes No (N/A)	Temperature Reading.	1.2
Total Containers.		Corrected Temperature:	1.0

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA · 300.0)	TPH (8015)	BTEX (8021)	Sample Comments
FS01	Soil	3/24/2023	945	0 5'	Comp	1	x	x	x	
FS02	Soil	3/24/2023	950	0 5'	Comp	1	x	x	x	
FS03	Soil	3/24/2023	1300	1 5'	Comp	1	x	x	x	
FS04	Soil	3/24/2023	1305	1 5'	Comp	1	x	x	x	
FS05	Soil	3/24/2023	1310	1 5'	Comp	1	x	x	x	
FS06	Soil	3/24/2023	1315	1 5'	Comp	1	x	x	x	
SS05A	Soil	3/24/2023	955	1 0'	Comp	1	x	x	x	880-26438 Chain of Custody
SS07A	Soil	3/24/2023	1000	1 0'	Comp	1	x	x	x	
SS08A	Soil	3/24/2023	1005	1 0'	Comp	1	x	x	x	
SS09A	Soil	3/24/2023	1010	1 0'	Comp	1	x	x	x	

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	

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	[signature]	3-24-23 1527			
3			4		
5			6		

Revised Date: 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-26438-1
SDG Number: 03D2024164

Login Number: 26438
List Number: 1
Creator: Kramer, Jessica

List Source: Eurofins Midland

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").	N/A	

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	NAPP2305139488
District RP	
Facility ID	fAPP2203848387
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # *(assigned by OCD)*	NAPP2305139488
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.0636 Longitude -103.6594
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Bufflehead 10 Federal 001H	Site Type	Tank Battery
Date Release Discovered	February 10, 2023	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
B	10	26S	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) 0.69	Volume Recovered (bbls) 0
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a valve malfunction causing fluids to go to the flare resulting in a flare fire. No fluid was recovered due to the fire burning off any standing fluid. The release resulted in a flare fire on and off the pad.

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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? The release involved a fire.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Immediate notice was given by Charles Beauvais via email on February 11, 2023 at 1:10 PM to ocd.enviro@state.nm.us.

Initial Response

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

- ■ The source of the release has been stopped.
- ■ The impacted area has been secured to protect human health and the environment.
- ■ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ■ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Brittany N. Esparza Title: Environmental Technician

Signature: Brittany Esparza Date: 2/20/2024

email: Brittany.Esparza@ConocoPhillips.com Telephone: (432) 221-0398

OCD Only

Received by: Jocelyn Harimon Date: 02/20/2023

NAPP2305139488

Spill Calculation - Subsurface Spill - Rectangle											Remediation Recommendation	
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Average Depth (in.)	On/Off Pad (dropdown)	Soil Spilled-Fluid Saturation (%.)	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture (%.)	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)	Total Estimated Contaminated Soil, uncompacted, 25% (yd^3.)	Current Rule of Thumb - RMR Handover Volume, (yd^3.)
Rectangle A	85.0	4.0	1.0	On-Pad	10.50%	5.04	0.53		0.00	0.53	1.31	
Rectangle B	2.0	3.0	12.0	Off-Pad	15.02%	1.07	0.16		0.00	0.16	0.28	
Rectangle C						0.00					0.00	
Rectangle D						0.00					0.00	
Rectangle E						0.00					0.00	
Rectangle F						0.00					0.00	750
Rectangle G						0.00					0.00	
Rectangle H						0.00					0.00	
Rectangle I						0.00					0.00	
Rectangle J						0.00					0.00	
					Total Subsurface Volume Released:		0.6900		0.0000	0.6900	1.59	BU

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
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Santa Fe, NM 87505

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 188163
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	2/21/2023

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☒ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☒ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141
Page 4

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Printed Name: __Jacob Laird_____ Title: __Environmental Engineer_____

Signature: Jacob Laird Date: _____5/11/2023_____

email: __Jacob.Laird@conocophillips.com_____ Telephone: ___575-703-5482_____

OCD Only

Received by: Jocelyn Harimon Date: 05/11/2023

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Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jacob Laird Title: Environmental Engineer

Signature: Jacob Laird Date: 5/11/2023

email: Jacob.Laird@conocophillips.com Telephone: 575-703-5482

OCD Only

Received by: Jocelyn Harimon Date: 05/11/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Nelson Velez Date: 07/31/2023

Printed Name: Nelson Velez Title: Environmental Specialist - Adv

ENSOLUM

APPENDIX F

NMOCD Notifications

From: Enviro, OCD, EMNRD
To: Hadlie Green
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD
Subject: RE: [EXTERNAL] Sampling Notification (Week of 3/20/2023)
Date: Wednesday, March 15, 2023 4:56:14 PM
Attachments: image005.jpg
image006.png
image007.png
image008.png
image009.png

[**EXTERNAL EMAIL**]

Hadlie,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

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: Hadlie Green <hgreen@ensolum.com>
Sent: Wednesday, March 15, 2023 2:07 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kalei Jennings <kjennings@ensolum.com>
Subject: [EXTERNAL] Sampling Notification (Week of 3/20/2023)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

All,

ConocoPhillips Company (COP) plans to complete sampling activities at the following site the week of March 20, 2023.

- Jazzmaster 17 State 003H / NAPP2306543550
- Wilder 28-1 / NAPP2301736973
- Bufflehead 10 Federal 001H / NAPP2305139488

Thank you,

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

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CONDITIONS

Action 215857

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 215857
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	7/31/2023