ENSOLUM

February 23, 2026

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
Empire Abo Unit 291
Incident Number nAPP2526548140
Eddy County, New Mexico

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at Empire Abo Unit 291 (Site). The purpose of the site assessment, excavation, and soil sampling activities was to assess the presence or absence of impacts to soil resulting from a release of produced water at the Site. Based on field observations, excavation, field screening activities, and laboratory analytical results from the soil sampling events, Hilcorp is requesting no further action for the remediation of Incident Number nAPP2526548140.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit P, Section 32, Township 17 South, Range 28 East, in Eddy County, New Mexico (32.785001°, -104.192901°) and is associated with oil and gas exploration and production operations on private land.

On September 18, 2025, external corrosion of a 3-inch steel flowline resulted in the release of 10 barrels (bbls) of produced water into the surrounding pasture at the Site. Upon discovery, a vacuum truck was immediately dispatched to recover free-standing fluids; approximately 1 bbl of produced water was recovered, and the flowline was subsequently repaired before placing it back into service. Hilcorp submitted the *Notification of Release* to the New Mexico Oil Conservation Division (NMOCD) on September 22, 2025 and submitted a Form C-141 Application (C-141) on October 6, 2025. The release was assigned Incident Number nAPP2526548140.

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 are summarized below and detailed in the NMOCD permitting portal Form C-141 Site Characterization section.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a recent soil boring drilled for determination of regional groundwater. In July 2023, a soil boring (RA-13613-POD 1) permitted by New Mexico Office of the State Engineer (NMOSE)

was completed approximately 1,523 feet southwest of the Site. The soil boring was drilled to a depth of 92 feet bgs utilizing air rotary drilling method. There are two additional NMOSE permitted wells in the same vicinity, but well logs were unavailable. The referenced well record is included in Appendix A.

The nearest continuously flowing watercourse or any other significant watercourse is a seasonal dry wash located 833 feet southwest. The Site is greater than 300 feet from any lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from any freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is underlain by unstable geology (high potential karst designation area). Potential 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 xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH): 100 mg/kg
- Chloride: 600 mg/kg

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On September 24, 2025, Ensolum evaluated the release extent based on visual observations and information provided by Hilcorp. Eight soil samples (SS01 through SS08) were collected within and laterally around the observed soil-stained area, defined as the release extent, at a depth of approximately 0.5 feet bgs to assess the presence or absence of impacted soil. The assessment 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 assessment soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation during the Site visit is included in a photographic log 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 Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analyses of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standards Method 4500.

Laboratory analytical results for soil samples SS01 through SS03, collected within the release extent, indicated chloride concentrations exceeded the applicable Site Closure Criteria. Laboratory analytical results for soil sample SS04 through SS08, collected laterally around the release extent, indicated all COC concentrations were compliant with the applicable Site Closure Criteria. Based on visible staining within the release area and laboratory analytical results, excavation activities were warranted.

EXCAVATION SOIL SAMPLING ACTIVITIES

Between October 15 and December 3, 2025, Ensolum personnel oversaw excavation activities based on visible staining and laboratory analytical results. Excavation activities were performed via hydro vacuum truck, hand excavation, heavy equipment, and transportation vehicles. To direct

excavation activities, soil was field screened for VOCs and chloride as previously described. The excavation was completed to depths ranging from 4 feet to 14 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following the removal of impacted soil, five-point composite soil samples were collected every 200 square feet from the floor (FS01 through FS17) and sidewalls (SW01 through SW11) of the excavation. The five-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite floor samples, FS01 through FS17, were collected from the floor of the excavation from depths ranging from 4 feet to 14 feet bgs. Composite sidewall samples, SW01 through SW11, were collected from the sidewalls of the excavation at depths ranging from ground surface to 12 feet bgs. Composite floor samples FS10 through FS12 were collected at depths ranging from 12 to 14 feet bgs, but listed as the deepest depth collected, deeper than the deepest documented sidewall samples due to the sloping of the excavation in that area. The excavation soil samples were handled and analyzed as previously described at Cardinal or Eurofins Laboratory (Eurofins) in Carlsbad, New Mexico. Samples submitted to Eurofins were analyzed for chloride using EPA Method 300. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS unit and are depicted in Figure 3.

Laboratory analytical results for excavation floor samples, FS01 through FS17, and excavation sidewall samples, SW01 through SW11, indicated concentrations of all COCs were compliant with NMOCD Table I Closure Criteria. The final excavation extent of the measured roughly 3,360 square feet, and approximately 2,100 cubic yards of impacted soil was removed and transported to R360 located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing. Soil sample results are summarized in Table 1, with complete laboratory analytical reports attached as Appendix C. Photographs taken by Ensolum during the excavation work are presented in Appendix B.

CLOSURE REQUEST

Site assessment, delineation and excavation activities were conducted at the Site to address the September 18, 2025, release of produced water. Laboratory analytical results for the excavation soil samples collected from the final excavation extent indicated that all COC concentrations were compliant with the Site Closure Criteria. Based on the laboratory analytical results, no further remediation was required. Hilcorp will backfill the excavation with material sourced locally and recontour the Site to match pre-existing site conditions.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs. Hilcorp believes these remedial actions are protective of human health, the environment, and groundwater. As such, Hilcorp respectfully requests closure for Incident Number nAPP2526548140.

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

Sincerely,
Ensolum, LLC

Kara Naegeli, GIT
Staff Geologist

Kalei Jennings
Senior Managing Scientist

Attachments:

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

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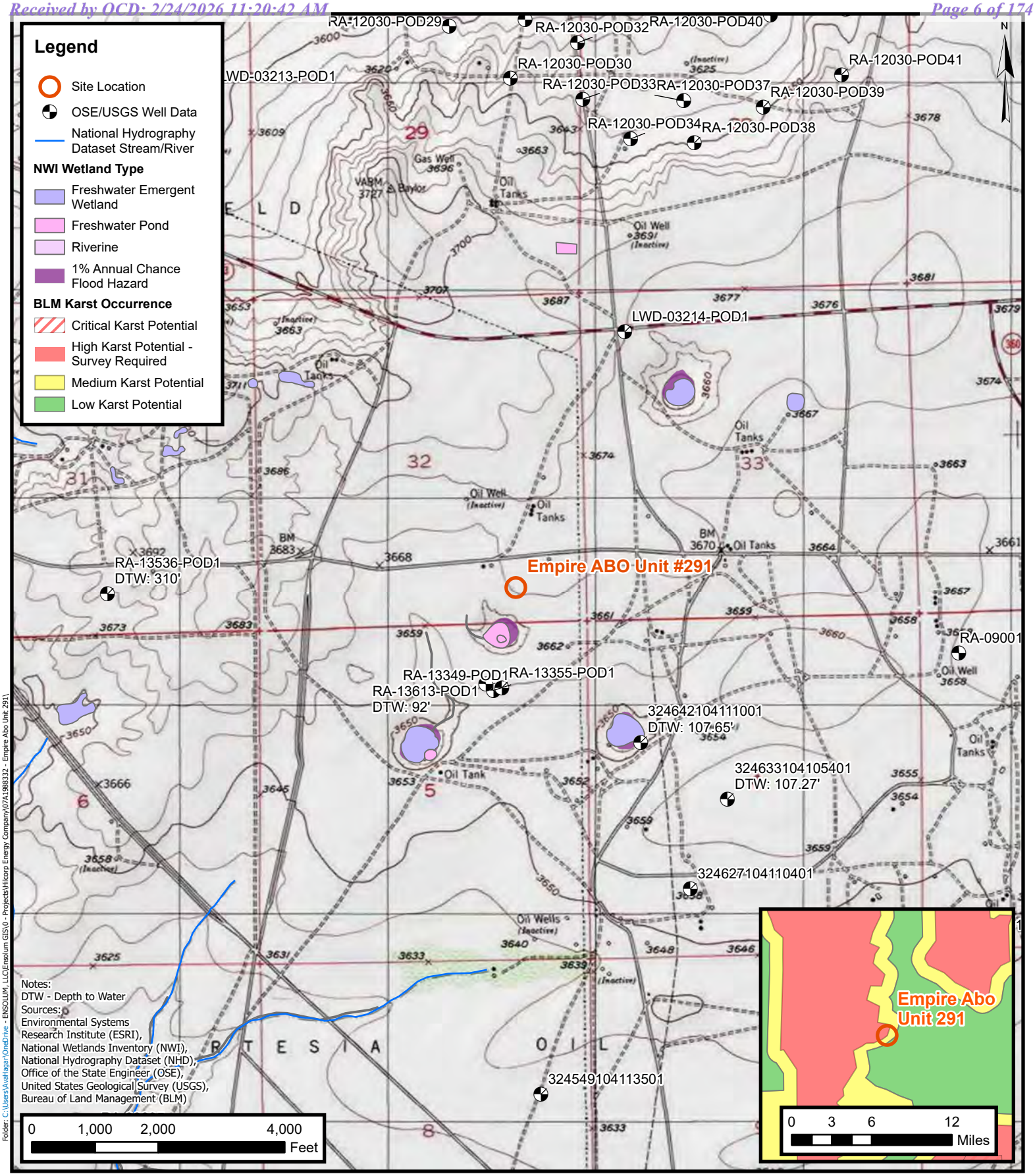
FIGURES



Folder: C:\Users\AveHagar\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\Hilcorp Energy Company\07A1988332 - Empire Abo Unit 291\

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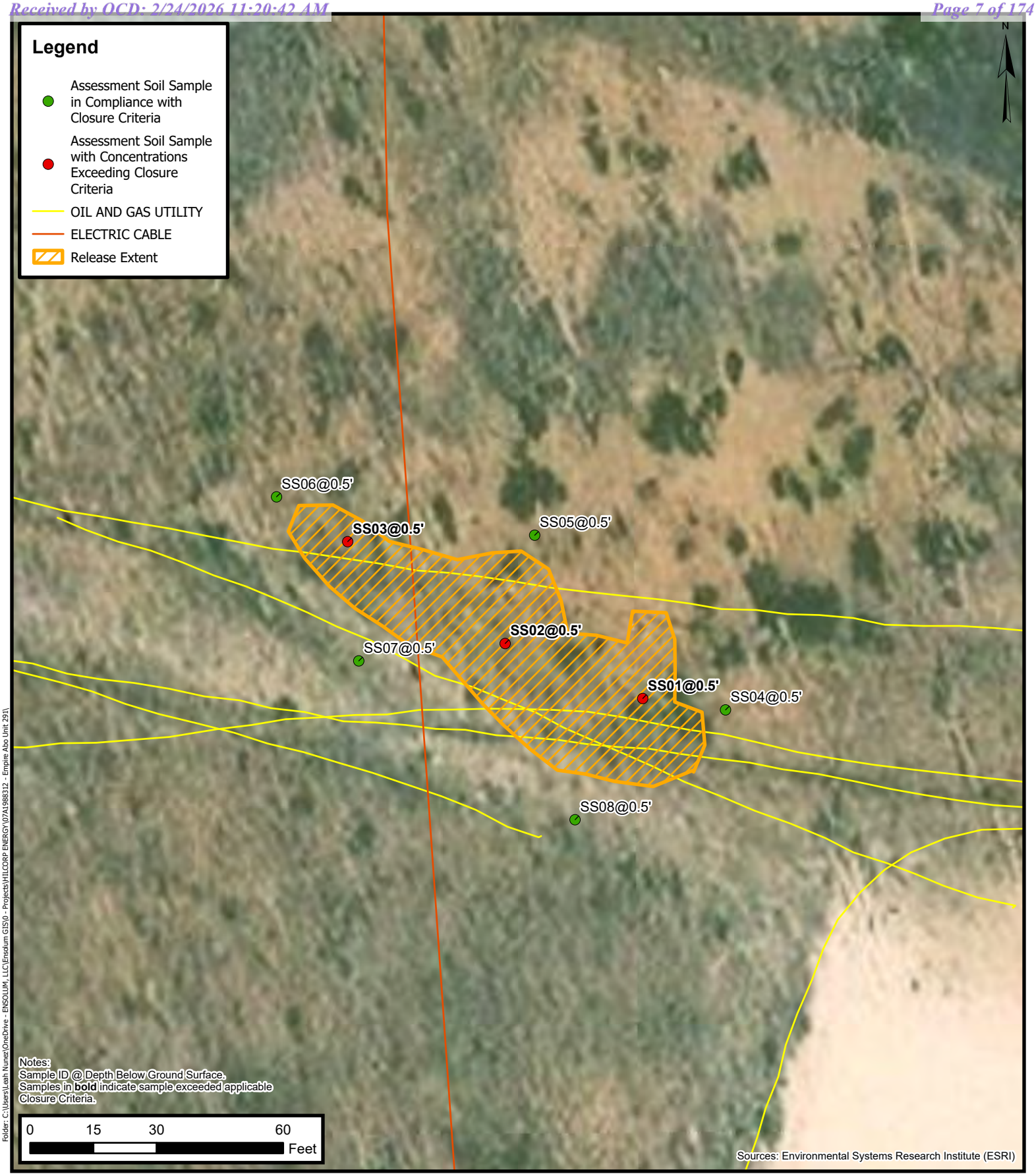
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

Hilcorp Energy Company
Empire ABO Unit 291
Incident Number: NAPP2526548140
Unit P, Section 32, Township 17 South, Range 28 East
Eddy County, New Mexico

FIGURE 1



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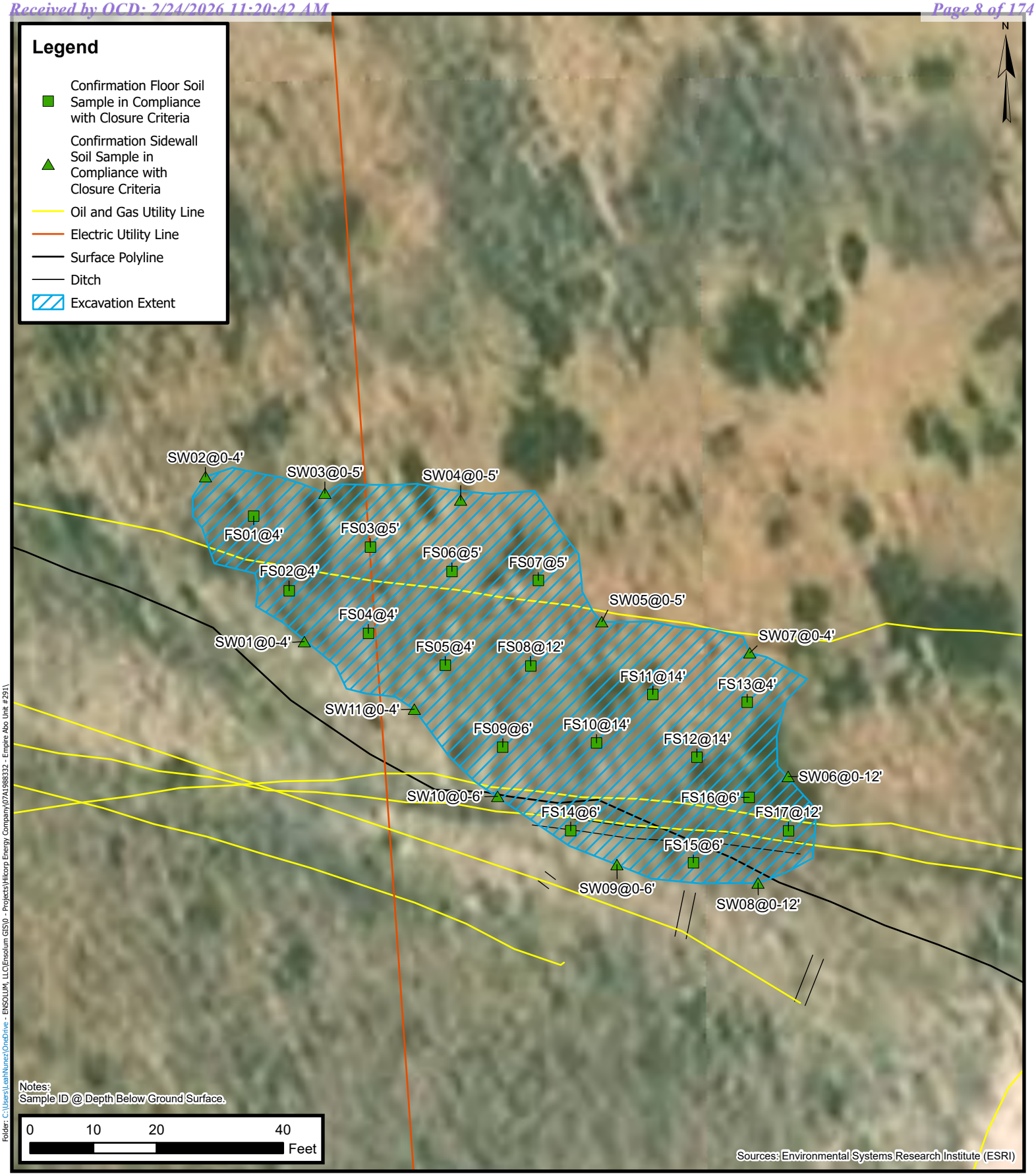
Assessment Soil Sample Locations

Hilcorp Energy Company
Empire Abo Unit 291
Incident Number: NAPP2526548140
Unit P, Section 32, Township 17 South, Range 28 East
Eddy County, New Mexico

FIGURE 2



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Excavation Soil Sample Locations

Hilcorp Energy Company
Empire Abo Unit 291
Incident Number: NAPP2526548140
Unit P, Section 32, Township 17 South, Range 28 East
Eddy County, New Mexico

FIGURE 3

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Empire Abo Unit 291
Hilcorp Energy Company
Eddy 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	NE	100	600
Assessment Soil Samples										
SS01	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**10,200**
SS02	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**6,880**
SS03	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	**7,760**
SS04	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS05	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SS06	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS07	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS08	09/24/2025	0.5	<0.0500	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
Excavation Floor Soil Samples										
FS01	11/12/2025	4	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	365
FS02	11/12/2025	4	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	211
FS03	12/01/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
FS04	11/12/2025	4	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	261
FS05	11/12/2025	4	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	508
FS06	12/01/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
FS07	12/01/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
FS08	11/25/2025	12	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	211
FS09	12/24/2025	6	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	194
FS10	12/24/2025	14	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	142
FS11	12/24/2025	14	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	154
FS12	12/24/2025	14	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	111
FS13	11/24/2025	4	<0.00200	<0.00399	<50.1	<50.1	69.9	<50.1	69.9	282
FS14	12/24/2025	6	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	149

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Empire Abo Unit 291
Hilcorp Energy Company
Eddy 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**	**NE**	**100**	**600**
FS15	12/24/2025	6	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	136
FS16	12/24/2025	6	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	165
FS17	12/24/2025	12	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	174
Excavation Sidewall Soil Samples										
SW01	12/24/2025	0-4	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	154
SW02	12/24/2025	0-4	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	183
SW03	12/24/2025	0-5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	176
SW04	12/01/2025	0-5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
SW05	12/24/2025	0-5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	209
SW06	12/03/2025	0-12	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW07	12/24/2025	0-4	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	199
SW08	12/24/2025	0-12	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	189
SW09	12/24/2025	0-6	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	126
SW10	12/24/2025	0-6	<0.00200	<0.00401	<50.1	<50.1	<50.1	<50.1	<50.1	140
SW11	12/24/2025	0-4	<0.00199	0.00457	<50.0	<50.0	<50.0	<50.0	<50.0	46.4

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

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APPENDIX A

Referenced Well Record

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DII ROSWELL NM
16 OCT '25 AM11:48

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): POD 1	WELL TAG ID NO.: N?A	OSE FILE NO(S).: RA-13613
WELL OWNER NAME(S): ET-S Permian Holdings Company LP		PHONE (OPTIONAL): 432-238-2142
WELL OWNER MAILING ADDRESS: 303 Veterans Airpark Lane, Suite 5000		CITY: Midland STATE: TX ZIP: 79705

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	46	51.72	N
	LONGITUDE	104	11	40.41	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
West of Loco Hills NWNE S-5 T-18S R-28E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
WD-1862	James Hawley	H&R Enterprises, LLC

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
9/10/25	9/10/25	120'	120'	92'

COMPLETED WELL IS: ☐ ARTESIAN *add Centralizer info below ☐ DRY HOLE ☑ SHALLOW (UNCONFINED)
STATIC WATER LEVEL IN COMPLETED WELL (FT): 92'
DATE STATIC MEASURED: 9/16/25

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☑ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER – SPECIFY:
CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

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)
			No Casing left in hole				

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 *(if using Centralizers for Artesian wells- indicate the spacing below)	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. RA-13613	POD NO. 1	TRN NO. 790261
LOCATION 18S.28E.05.412	WELL TAG ID NO. —	PAGE 1 OF 2

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	15	15	Sandy white loose caliche	Y ✓ N	
15	20	5	brown sandy caliche	Y ✓ N	
20	40	20	red sandy clay with small rocks	Y ✓ N	
40	50	10	grey/pink sandy clay with small rocks	Y ✓ N	
50	70	20	light tan sand and small rocks	Y ✓ N	
70	85	15	red moist clay	Y ✓ N	
90	100	10	coarse sand and 1/2 inch gravel	✓ Y N	
100	120		red clay mixed with coarse sand and 3/8 gravel	✓ 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: N/A

TOTAL ESTIMATED WELL YIELD (gpm):

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: Well was drilled to determine depth of groundwater close to a remediation site.

OSE DII ROSWELL NM
16 OCT '25 AM11:48

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

James Hawley

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:

James Hawley — 9/16/25

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 09/22/2022)

FILE NO. RA-13613	POD NO. 1	TRN NO. 790261	
LOCATION 19S.28E.05.412		WELL TAG ID NO. —	PAGE 2 OF 2

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APPENDIX B

Photographic Log

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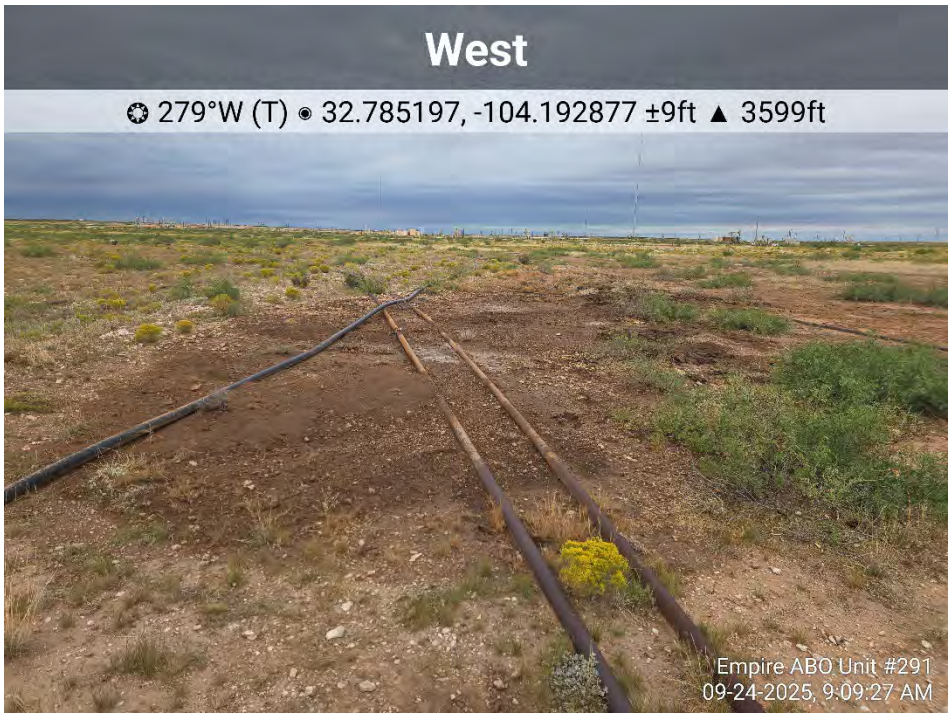
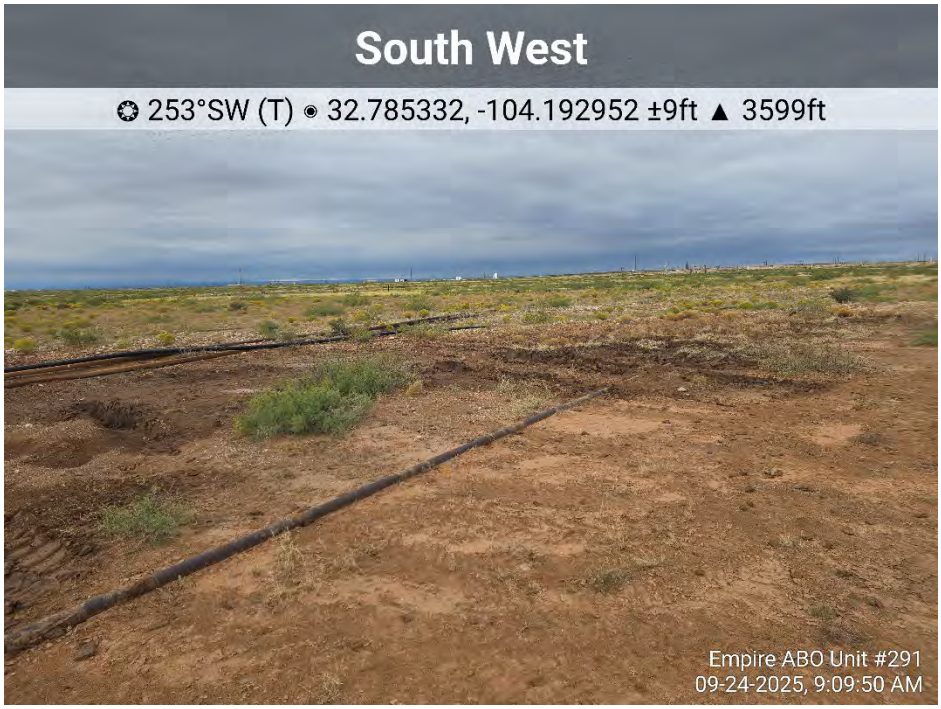
Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph	Date	
1	9/24/2025	
Description: Initial release staining		
View: West		

Photograph	Date	
2	9/24/2025	
Description: Initial release staining		
View: Southwest		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 3	Date 9/24/2025	
Description Initial release staining		
View East		
Photograph 4	Date 10/15/2025	
Description Excavation activities		
View Southwest		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 5	Date 10/20/2025	
Description Excavation activities		
View Northeast		
Photograph 6	Date 10/31/2025	
Description Excavation activities		
View East		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 7	Date 11/12/2025	
Description Excavation activities		
View North		
Photograph 8	Date 11/12/2025	
Description Excavation activities		
View East		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
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Photograph 9	Date 11/24/2025	
Description Excavation activities		
View West		
Photograph 10	Date 11/24/2025	
Description Excavation activities		
View Southeast		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 11	Date 11/25/2025	
Description: Excavation activities; near FS17		
View: Northwest		
Photograph 12	Date 12/01/2025	
Description: Excavation activities; near FS15		
View: Northwest		

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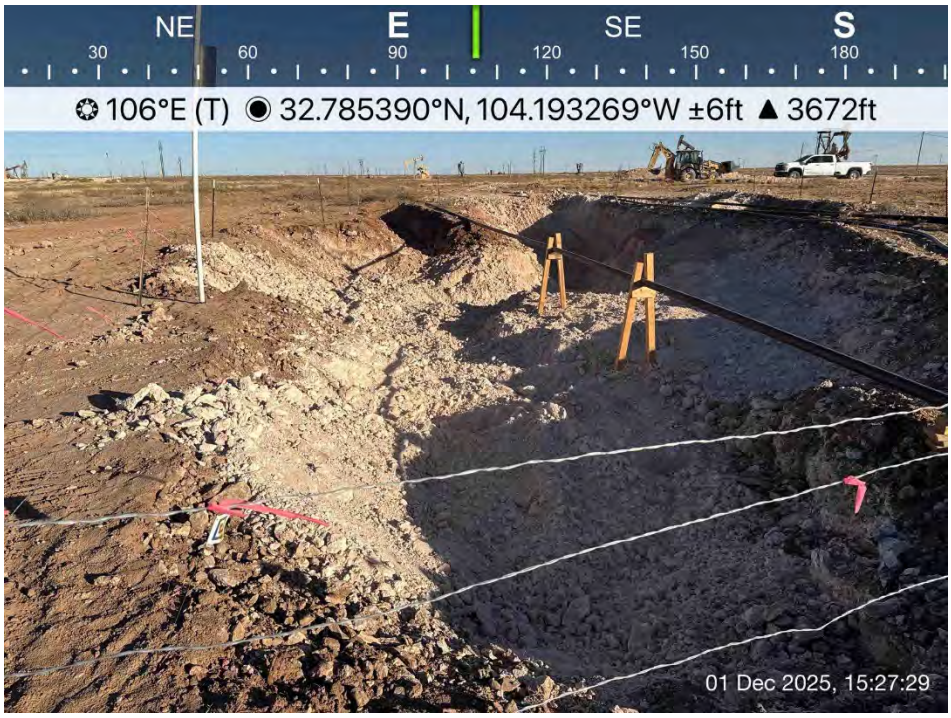
Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 13	Date 12/01/2025	
Description Excavation activities; near FS01		
View East		
Photograph 14	Date 12/03/2025	
Description Excavation activities; near FS13		
View West		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
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Photograph 15	Date 12/03/2025	
Description Excavation activities; near FS01		
View East		
Photograph 16	Date 12/24/2025	
Description Final excavation extent; near FS02		
View North		

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Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 17	Date 12/24/2025	
Description Final excavation extent; near FS05		
View North		
Photograph 18	Date 12/24/2025	
Description Final excavation extent; near FS10		
View Northeast		

ENSOLUM

Photographic Log

Hilcorp Energy Company
Empire Abo Unit 291
nAPP2526548140

Photograph 19	Date 12/24/2025	
Description Final excavation extent; near FS14		
View Northeast		
Photograph 20	Date 12/24/2025	
Description Final excavation extent; near FS17		
View Southwest		

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain-of-Custody Documentation

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 30, 2025

KALEI JENNINGS

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EMPIRE ABO UNIT #291

Enclosed are the results of analyses for samples received by the laboratory on 09/24/25 13:52.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 01 0.5 (H255971-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *89.1 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: KH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10200**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *86.9 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *89.7 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 02 0.5 (H255971-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.0 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: KH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6880**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *80.1 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *81.4 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 03 0.5 (H255971-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.9 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: KH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7760**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *87.6 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *89.5 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 04 0.5 (H255971-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.8 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: KH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *76.5 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *76.7 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 05 0.5 (H255971-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.9 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *82.1 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *81.9 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 06 0.5 (H255971-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *89.7 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *85.0 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *85.9 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 07 0.5 (H255971-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *89.5 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *79.1 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *80.6 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KALEI JENNINGS
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	09/24/2025	Sampling Date:	09/24/2025
Reported:	09/30/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Shalyn Rodriguez
Project Location:	32.785, -104.1929		

Sample ID: SS 08 0.5 (H255971-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/25/2025	ND	1.83	91.4	2.00	2.67	
Toluene*	<0.050	0.050	09/25/2025	ND	1.86	93.1	2.00	1.18	
Ethylbenzene*	<0.050	0.050	09/25/2025	ND	1.85	92.5	2.00	0.486	
Total Xylenes*	<0.150	0.150	09/25/2025	ND	5.41	90.2	6.00	0.315	
Total BTEX	<0.300	0.300	09/25/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *88.2 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	09/25/2025	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2025	ND	196	97.9	200	2.20	
DRO >C10-C28*	<10.0	10.0	09/24/2025	ND	209	104	200	4.64	
EXT DRO >C28-C36	<10.0	10.0	09/24/2025	ND					

Surrogate: 1-Chlorooctane *69.6 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *68.5 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Kalei Jennings	P.O. #:
Address: 3122 National Parks Hwy	Company: Hilcorp
City: Carlsbad State: NM Zip: 88220	Attn: Billy Ginn
Phone #: 817-683-2503 Fax #:	Address:
Project #: 07A1988332 Project Owner:	City:
Project Name: Empire ABO unit #291	State: Zip:
Project Location: 32.785, -104.1929	Phone #:
Sampler Name: Mario Sarkis	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	BTEX (8021)	TPH (8015)	Chlorides (4500)	9/24/25
H255971																			
1	SS01	0.5	G	1			✓					✓		9/24/25	1027	✓	✓	✓	
2	SS02	0.5	G	1			✓					✓			1030	✓	✓	✓	
3	SS03	0.5	G	1			✓					✓			1032	✓	✓	✓	
4	SS04	0.5	G	1			✓					✓			1017	✓	✓	✓	
5	SS05	0.5	G	1			✓					✓			1019	✓	✓	✓	
6	SS06	0.5	G	1			✓					✓			1021	✓	✓	✓	
7	SS07	0.5	G	1			✓					✓			1023	✓	✓	✓	
8	SS08	0.5	G	1			✓					✓			1025	✓	✓	✓	

MPS

Relinquished By:	Date: 9/24/25 Time: 1352	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: MSarkis@ensolum.com / Kjennings@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 3.5 Corrected Temp. °C 3.8	Sample Condition Cool Intact ☐ Yes ☐ Yes ☐ No ☐ No	CHECKED BY: (Initials) SR

REMARKS:

Turnaround Time: Standard ☑ Rush ☐

Thermometer ID #113 #140 Correction Factor -0.5°C +0.3

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 09, 2025

KARA NAEGELI

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EMPIRE ABO UNIT #291

Enclosed are the results of analyses for samples received by the laboratory on 12/03/25 11:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KARA NAEGELI
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/03/2025	Sampling Date:	12/01/2025
Reported:	12/09/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Alyssa Parras
Project Location:	HILCORP 32.785, -104.1929		

Sample ID: FS 03 5' (H257521-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/04/2025	ND	2.30	115	2.00	0.223	
Toluene*	<0.050	0.050	12/04/2025	ND	2.23	111	2.00	0.403	
Ethylbenzene*	<0.050	0.050	12/04/2025	ND	2.12	106	2.00	0.548	
Total Xylenes*	<0.150	0.150	12/04/2025	ND	6.47	108	6.00	0.311	
Total BTEX	<0.300	0.300	12/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.3 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**448**	16.0	12/03/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/03/2025	ND	201	101	200	1.21	
DRO >C10-C28*	<10.0	10.0	12/03/2025	ND	187	93.7	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	12/03/2025	ND					

Surrogate: 1-Chlorooctane *82.1 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *81.6 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KARA NAEGELI
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/03/2025	Sampling Date:	12/01/2025
Reported:	12/09/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Alyssa Parras
Project Location:	HILCORP 32.785, -104.1929		

Sample ID: FS 06 5' (H257521-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/04/2025	ND	2.30	115	2.00	0.223	
Toluene*	<0.050	0.050	12/04/2025	ND	2.23	111	2.00	0.403	
Ethylbenzene*	<0.050	0.050	12/04/2025	ND	2.12	106	2.00	0.548	
Total Xylenes*	<0.150	0.150	12/04/2025	ND	6.47	108	6.00	0.311	
Total BTEX	<0.300	0.300	12/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.9 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	12/03/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/03/2025	ND	201	101	200	1.21	
DRO >C10-C28*	<10.0	10.0	12/03/2025	ND	187	93.7	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	12/03/2025	ND					

Surrogate: 1-Chlorooctane *95.3 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *97.0 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KARA NAEGELI
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/03/2025	Sampling Date:	12/01/2025
Reported:	12/09/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Alyssa Parras
Project Location:	HILCORP 32.785, -104.1929		

Sample ID: FS 07 5' (H257521-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/04/2025	ND	2.30	115	2.00	0.223	
Toluene*	<0.050	0.050	12/04/2025	ND	2.23	111	2.00	0.403	
Ethylbenzene*	<0.050	0.050	12/04/2025	ND	2.12	106	2.00	0.548	
Total Xylenes*	<0.150	0.150	12/04/2025	ND	6.47	108	6.00	0.311	
Total BTEX	<0.300	0.300	12/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	12/03/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/03/2025	ND	201	101	200	1.21	
DRO >C10-C28*	<10.0	10.0	12/03/2025	ND	187	93.7	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	12/03/2025	ND					

Surrogate: 1-Chlorooctane *93.0 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *93.3 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KARA NAEGELI
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/03/2025	Sampling Date:	12/01/2025
Reported:	12/09/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Alyssa Parras
Project Location:	HILCORP 32.785, -104.1929		

Sample ID: SW 04 0-5' (H257521-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/04/2025	ND	2.30	115	2.00	0.223	
Toluene*	<0.050	0.050	12/04/2025	ND	2.23	111	2.00	0.403	
Ethylbenzene*	<0.050	0.050	12/04/2025	ND	2.12	106	2.00	0.548	
Total Xylenes*	<0.150	0.150	12/04/2025	ND	6.47	108	6.00	0.311	
Total BTEX	<0.300	0.300	12/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.9 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	12/03/2025	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/03/2025	ND	201	101	200	1.21	
DRO >C10-C28*	<10.0	10.0	12/03/2025	ND	187	93.7	200	3.48	
EXT DRO >C28-C36	<10.0	10.0	12/03/2025	ND					

Surrogate: 1-Chlorooctane *74.1 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *75.5 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

BS-3	Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

Page 7 of 7

Company Name	Ensolum
Project Manager	~~Kelly Lowery~~ Kara Naegeli
Address:	601 N. Marienfeld St STE 400
City:	~~Midland~~ Midland St ~~TX~~ TX Zip: 79701
Phone #:	~~214-733-3165~~ Fax #:
Project #:	~~03B1417279~~ 07A1988332 Project Owner: ~~OXY~~ Hilcorp
Project Name:	~~Dimaggio #003 Flowline~~ Empire ABO Unit 291
Project Location:	Eddy County, NM
Sampler Name:	Nicolas Christakos

BILL TO

P.O. #:	
Company	~~OXY USA, Inc~~ Hilcorp
Attn:	~~Daniel Sparks~~ Billy Ginn
Address:	1111 Travis St
City:	Houston
State:	TX Zip: 77002
Phone #:	
Fax #:	

Lab I.D. (FOR LAB USE ONLY)	Sample I.D.	Sample Depth	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015	BTEX 8015	Chloride 4500	Hold
H25-7521																			
1	FS03	5'	C	1			✓					✓		12/01/25	1221	✓	✓	✓	
2	FS06	5'	C	1			✓					✓		↓	1219	✓	✓	✓	
3	FS07	5'	C	1			✓					✓		↓	1216	✓	✓	✓	
4	SW04	0-5'	C	1			✓					✓		↓	1244	✓	✓	✓	

NC 12/02/2025 NFE (written across the unused rows and the analysis columns)

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C/S: 0402401K-AM

Relinquished By: Nicolas Christakos	Date: 12/3/25 Time: 1013	Received By: [signature]	Verbal Result: ☐ Yes ☑ No Add'l Phone #: All Results are emailed. Please provide Email address: ~~klowery@ensolum.com~~ Nchristakos@ensolum.com Knaegeli@ensolum.com
Relinquished By: [signature]	Date: 12-3-25 Time: 1132	Received By: [signature]	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.3 Corrected Temp. °C 4.6	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) [initials]

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #140
Correction Factor +0.3°C
Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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

FORM-006 R 3.6 02/12/25

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 10, 2025

KARA NAEGELI

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: EMPIRE ABO UNIT #291

Enclosed are the results of analyses for samples received by the laboratory on 12/04/25 11:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
KARA NAEGELI
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/04/2025	Sampling Date:	12/03/2025
Reported:	12/10/2025	Sampling Type:	Soil
Project Name:	EMPIRE ABO UNIT #291	Sampling Condition:	Cool & Intact
Project Number:	07A1988332	Sample Received By:	Alyssa Parras
Project Location:	HILCORP 32.785, -104.1929		

Sample ID: SW 06 0-12' (H257553-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/06/2025	ND	2.00	100	2.00	7.99	
Toluene*	<0.050	0.050	12/06/2025	ND	1.96	98.0	2.00	7.21	
Ethylbenzene*	<0.050	0.050	12/06/2025	ND	1.85	92.6	2.00	7.87	
Total Xylenes*	<0.150	0.150	12/06/2025	ND	5.67	94.5	6.00	7.76	
Total BTEX	<0.300	0.300	12/06/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.5 %* *70.4-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: KH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	12/04/2025	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/04/2025	ND	203	101	200	2.61	
DRO >C10-C28*	<10.0	10.0	12/04/2025	ND	222	111	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	12/04/2025	ND					

Surrogate: 1-Chlorooctane *84.8 %* *52.4-130*

Surrogate: 1-Chlorooctadecane *85.8 %* *39.9-141*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

Company Name	Ensolum	**BILL TO**	
Project Manage	Kara Naegeli	**P.O. #:**	
Address:	601 N. Marienfeld St STE 400	**Company**	Hilcorp
City:	Midland **St** TX **Zip:** 79701	**Attn:**	Billy Ginn
Phone #:	512-709-2473 **Fax #:**	**Address:**	1111 Travis St.
Project #:	07A1988332 **Project Owner:** Hilcorp	**City:**	Houston
Project Name:	Empire ABO Unit 291	**State:** TX **Zip:** ###	
Project Location:	Eddy County, NM	**Phone #:**	
Sampler Name:	Nicolas Christakos	**Fax #:**	

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	Sample Depth	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015	BTEX 8015	Chloride 4500
H251553-1	SW06	0-12'	C	1			✓					✓		12/03/25	1401	✓	✓	✓

NC NFE 12/3/25

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CLS 04024011K

Relinquished By:	Nicolas Christakos	**Date:**	12.4.25
		Time:	1145
Received By:			
Relinquished By:		**Date:**	
		Time:	
Received By:			

Verbal Result: ☐ Yes ☑ No **Add'l Phone #:**
All Results are emailed. Please provide Email address:
Knaegeli@ensolum.com Nchristakos@ensolum.com

REMARKS:

Delivered By: (Circle One)	**Observed Temp. °C**	8.6	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	AD
Sampler - UPS - Bus - Other:	**Corrected Temp. °C**	8.9			

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #140
Correction Factor +0.3°C

Bacteria (only) Sample Condition
Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.6 02/12/25

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

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 11/17/2025 4:58:13 PM

JOB DESCRIPTION

Empire Abo Unit #291
07A1988314

JOB NUMBER

890-9074-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

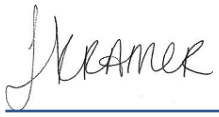
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
11/17/2025 4:58:13 PM

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

Client: Ensolum
Project/Site: Empire Abo Unit #291

Laboratory Job ID: 890-9074-1
SDG: 07A1988314

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 890-9074-1
Project: Empire Abo Unit #291

Job ID: 890-9074-1 Eurofins Carlsbad

Job Narrative
890-9074-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The samples were received on 11/13/2025 4:25 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 0.2°C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-123706 and analytical batch 880-124130 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Diesel Range Organics
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-123999 and analytical batch 880-124033 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The matrix spike (MS) recoveries for preparation batch 880-124000 and analytical batch 880-124036 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

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: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 01

Lab Sample ID: 890-9074-1
Matrix: Solid
Date Collected: 11/12/25 14:30
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/16/25 11:58	11/17/25 11:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/16/25 11:58	11/17/25 11:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/16/25 11:58	11/17/25 11:42	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/16/25 11:58	11/17/25 11:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/16/25 11:58	11/17/25 11:42	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/16/25 11:58	11/17/25 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/16/25 11:58*	*11/17/25 11:42*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*11/16/25 11:58*	*11/17/25 11:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			11/17/25 11:42	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			11/14/25 14:22	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		11/13/25 17:30	11/14/25 14:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/13/25 17:30	11/14/25 14:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/13/25 17:30	11/14/25 14:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*11/13/25 17:30*	*11/14/25 14:22*	*1*
o-Terphenyl	*112*		*70 - 130*	*11/13/25 17:30*	*11/14/25 14:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**365**		49.9		mg/Kg			11/14/25 13:29	5

Client Sample ID: FS 02

Lab Sample ID: 890-9074-2
Matrix: Solid
Date Collected: 11/12/25 14:34
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/16/25 11:58	11/17/25 12:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/16/25 11:58	11/17/25 12:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/16/25 11:58	11/17/25 12:02	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/16/25 11:58	11/17/25 12:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/16/25 11:58	11/17/25 12:02	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/16/25 11:58	11/17/25 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:02*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 02

Lab Sample ID: 890-9074-2
Matrix: Solid
Date Collected: 11/12/25 14:34
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:02*	*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			11/17/25 12:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			11/14/25 14:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		11/13/25 17:30	11/14/25 14:37	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		11/13/25 17:30	11/14/25 14:37	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		11/13/25 17:30	11/14/25 14:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*124*		*70 - 130*	*11/13/25 17:30*	*11/14/25 14:37*	*1*
o-Terphenyl	*116*		*70 - 130*	*11/13/25 17:30*	*11/14/25 14:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**211**		10.0	mg/Kg			11/14/25 13:35	1

Client Sample ID: FS 04

Lab Sample ID: 890-9074-3
Matrix: Solid
Date Collected: 11/12/25 13:04
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		11/16/25 11:58	11/17/25 12:23	1
Toluene	<0.00199	U	0.00199	mg/Kg		11/16/25 11:58	11/17/25 12:23	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		11/16/25 11:58	11/17/25 12:23	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		11/16/25 11:58	11/17/25 12:23	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		11/16/25 11:58	11/17/25 12:23	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		11/16/25 11:58	11/17/25 12:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:23*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:23*	*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			11/17/25 12:23	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			11/14/25 21:23	1

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Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 04

Lab Sample ID: 890-9074-3
Matrix: Solid
Date Collected: 11/12/25 13:04
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/13/25 17:33	11/14/25 21:23	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/13/25 17:33	11/14/25 21:23	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/13/25 17:33	11/14/25 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*11/13/25 17:33*	*11/14/25 21:23*	*1*
o-Terphenyl	*98*		*70 - 130*	*11/13/25 17:33*	*11/14/25 21:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**261**		9.94		mg/Kg			11/14/25 13:52	1

Client Sample ID: FS 05

Lab Sample ID: 890-9074-4
Matrix: Solid
Date Collected: 11/12/25 14:38
Date Received: 11/13/25 16:25
Sample Depth: 4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		11/16/25 11:58	11/17/25 12:43	1
Toluene	<0.00198	U	0.00198		mg/Kg		11/16/25 11:58	11/17/25 12:43	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		11/16/25 11:58	11/17/25 12:43	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		11/16/25 11:58	11/17/25 12:43	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		11/16/25 11:58	11/17/25 12:43	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		11/16/25 11:58	11/17/25 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:43*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*11/16/25 11:58*	*11/17/25 12:43*	*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			11/17/25 12:43	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			11/14/25 21:38	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		11/13/25 17:33	11/14/25 21:38	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/13/25 17:33	11/14/25 21:38	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/13/25 17:33	11/14/25 21:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*11/13/25 17:33*	*11/14/25 21:38*	*1*
o-Terphenyl	*101*		*70 - 130*	*11/13/25 17:33*	*11/14/25 21:38*	*1*

Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 05

Date Collected: 11/12/25 14:38
Date Received: 11/13/25 16:25
Sample Depth: 4'

Lab Sample ID: 890-9074-4

Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	508		10.0		mg/Kg			11/14/25 13:58	1

Surrogate Summary

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-9057-A-1-C MS	Matrix Spike	106	100										
890-9057-A-1-D MSD	Matrix Spike Duplicate	113	97										
890-9074-1	FS 01	105	85										
890-9074-2	FS 02	105	97										
890-9074-3	FS 04	109	98										
890-9074-4	FS 05	109	96										
LCS 880-123706/1-A	Lab Control Sample	114	105										
LCSD 880-123706/2-A	Lab Control Sample Dup	108	103										
MB 880-123706/5-A	Method Blank	114	93										
MB 880-124132/5-A	Method Blank	113	94										

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
890-9072-A-1-B MS	Matrix Spike	120	106										
890-9072-A-1-C MSD	Matrix Spike Duplicate	120	104										
890-9072-A-15-D MS	Matrix Spike	94	95										
890-9072-A-15-E MSD	Matrix Spike Duplicate	95	94										
890-9074-1	FS 01	117	112										
890-9074-2	FS 02	124	116										
890-9074-3	FS 04	90	98										
890-9074-4	FS 05	92	101										
LCS 880-123999/2-A	Lab Control Sample	125	108										
LCS 880-124000/2-A	Lab Control Sample	100	101										
LCSD 880-123999/3-A	Lab Control Sample Dup	129	109										
LCSD 880-124000/3-A	Lab Control Sample Dup	97	97										
MB 880-123999/1-A	Method Blank	109	101										
MB 880-124000/1-A	Method Blank	88	94										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-123706/5-A
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 123706

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/11/25 11:58	11/17/25 06:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/11/25 11:58	11/17/25 06:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/11/25 11:58	11/17/25 06:10	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/11/25 11:58	11/17/25 06:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/11/25 11:58	11/17/25 06:10	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/11/25 11:58	11/17/25 06:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*11/11/25 11:58*	*11/17/25 06:10*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*11/11/25 11:58*	*11/17/25 06:10*	*1*

Lab Sample ID: LCS 880-123706/1-A
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 123706

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1021		mg/Kg		102	70 - 130		
Toluene			0.100	0.09716		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.1007		mg/Kg		101	70 - 130		
m-Xylene & p-Xylene			0.200	0.2114		mg/Kg		106	70 - 130		
o-Xylene			0.100	0.1088		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-123706/2-A
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 123706

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1023		mg/Kg		102	70 - 130	0	35
Toluene			0.100	0.09984		mg/Kg		100	70 - 130	3	35
Ethylbenzene			0.100	0.1035		mg/Kg		103	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2194		mg/Kg		110	70 - 130	4	35
o-Xylene			0.100	0.1128		mg/Kg		113	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: 890-9057-A-1-C MS
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 123706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00198	U F2 F1	0.100	0.04905	F1	mg/Kg		49	70 - 130		
Toluene	<0.00198	U F1	0.100	0.04675	F1	mg/Kg		47	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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

Lab Sample ID: 890-9057-A-1-C MS
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 123706

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00198	U F1	0.100	0.04973	F1	mg/Kg		50	70 - 130
m-Xylene & p-Xylene	<0.00397	U F1	0.200	0.09738	F1	mg/Kg		49	70 - 130
o-Xylene	<0.00198	U F1	0.100	0.05448	F1	mg/Kg		54	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 890-9057-A-1-D MSD
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 123706

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U F2 F1	0.100	0.07095	F2	mg/Kg		71	70 - 130	37	35
Toluene	<0.00198	U F1	0.100	0.06513	F1	mg/Kg		65	70 - 130	33	35
Ethylbenzene	<0.00198	U F1	0.100	0.06471	F1	mg/Kg		65	70 - 130	26	35
m-Xylene & p-Xylene	<0.00397	U F1	0.200	0.1298	F1	mg/Kg		65	70 - 130	29	35
o-Xylene	<0.00198	U F1	0.100	0.06867	F1	mg/Kg		69	70 - 130	23	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: MB 880-124132/5-A
Matrix: Solid
Analysis Batch: 124130

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 124132

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		11/16/25 16:48	11/16/25 19:09	1
Toluene	<0.00200	U	0.00200	mg/Kg		11/16/25 16:48	11/16/25 19:09	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		11/16/25 16:48	11/16/25 19:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		11/16/25 16:48	11/16/25 19:09	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		11/16/25 16:48	11/16/25 19:09	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		11/16/25 16:48	11/16/25 19:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*11/16/25 16:48*	*11/16/25 19:09*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*11/16/25 16:48*	*11/16/25 19:09*	*1*

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

Lab Sample ID: MB 880-123999/1-A
Matrix: Solid
Analysis Batch: 124033

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 123999

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		11/13/25 17:30	11/14/25 08:29	1

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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

Lab Sample ID: MB 880-123999/1-A
Matrix: Solid
Analysis Batch: 124033

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 123999

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/13/25 17:30	11/14/25 08:29	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/13/25 17:30	11/14/25 08:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*11/13/25 17:30*	*11/14/25 08:29*	*1*
o-Terphenyl	*101*		*70 - 130*	*11/13/25 17:30*	*11/14/25 08:29*	*1*

Lab Sample ID: LCS 880-123999/2-A
Matrix: Solid
Analysis Batch: 124033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 123999

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	757.3		mg/Kg		76	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	931.1		mg/Kg		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: LCSD 880-123999/3-A
Matrix: Solid
Analysis Batch: 124033

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 123999

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	784.0		mg/Kg		78	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	961.8		mg/Kg		96	70 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*129*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: 890-9072-A-1-B MS
Matrix: Solid
Analysis Batch: 124033

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 123999

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 F1	998	621.5	F1	mg/Kg		61	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	735.3		mg/Kg		74	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*106*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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

Lab Sample ID: 890-9072-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 124033 — **Prep Batch: 123999**

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 F1	998	625.3	F1	mg/Kg		61	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	726.8		mg/Kg		73	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: MB 880-124000/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 124036 — **Prep Batch: 124000**

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		11/13/25 17:33	11/14/25 15:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/13/25 17:33	11/14/25 15:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/13/25 17:33	11/14/25 15:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*11/13/25 17:33*	*11/14/25 15:49*	*1*
o-Terphenyl	*94*		*70 - 130*	*11/13/25 17:33*	*11/14/25 15:49*	*1*

Lab Sample ID: LCS 880-124000/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 124036 — **Prep Batch: 124000**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	860.8		mg/Kg		86	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	961.7		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*101*		*70 - 130*

Lab Sample ID: LCSD 880-124000/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 124036 — **Prep Batch: 124000**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	839.0		mg/Kg		84	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	959.4		mg/Kg		96	70 - 130	0	20

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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

Lab Sample ID: LCSD 880-124000/3-A
Matrix: Solid
Analysis Batch: 124036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 124000

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: 890-9072-A-15-D MS
Matrix: Solid
Analysis Batch: 124036

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 124000

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 F1	999	642.5	F1	mg/Kg		64	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	716.2		mg/Kg		70	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	95		70 - 130

Lab Sample ID: 890-9072-A-15-E MSD
Matrix: Solid
Analysis Batch: 124036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 124000

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 F1	999	718.3		mg/Kg		72	70 - 130	11	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	741.4		mg/Kg		72	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	94		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-124005/1-A
Matrix: Solid
Analysis Batch: 124042

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			11/14/25 11:36	1

Lab Sample ID: LCS 880-124005/2-A
Matrix: Solid
Analysis Batch: 124042

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	226.9		mg/Kg		91	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-124005/3-A
Matrix: Solid
Analysis Batch: 124042

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	226.1		mg/Kg		90	90 - 110	0	20

Lab Sample ID: 890-9072-A-35-C MS
Matrix: Solid
Analysis Batch: 124042

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	1880		1240	3188		mg/Kg		106	90 - 110		

Lab Sample ID: 890-9072-A-35-D MSD
Matrix: Solid
Analysis Batch: 124042

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1880		1240	3185		mg/Kg		105	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

GC VOA

Prep Batch: 123706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	5035	
890-9074-2	FS 02	Total/NA	Solid	5035	
890-9074-3	FS 04	Total/NA	Solid	5035	
890-9074-4	FS 05	Total/NA	Solid	5035	
MB 880-123706/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-123706/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-123706/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-9057-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-9057-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 124130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	8021B	123706
890-9074-2	FS 02	Total/NA	Solid	8021B	123706
890-9074-3	FS 04	Total/NA	Solid	8021B	123706
890-9074-4	FS 05	Total/NA	Solid	8021B	123706
MB 880-123706/5-A	Method Blank	Total/NA	Solid	8021B	123706
MB 880-124132/5-A	Method Blank	Total/NA	Solid	8021B	124132
LCS 880-123706/1-A	Lab Control Sample	Total/NA	Solid	8021B	123706
LCSD 880-123706/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	123706
890-9057-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	123706
890-9057-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	123706

Prep Batch: 124132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-124132/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 124225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	Total BTEX	
890-9074-2	FS 02	Total/NA	Solid	Total BTEX	
890-9074-3	FS 04	Total/NA	Solid	Total BTEX	
890-9074-4	FS 05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 123999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	8015NM Prep	
890-9074-2	FS 02	Total/NA	Solid	8015NM Prep	
MB 880-123999/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-123999/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-123999/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-9072-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-9072-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 124000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-3	FS 04	Total/NA	Solid	8015NM Prep	
890-9074-4	FS 05	Total/NA	Solid	8015NM Prep	
MB 880-124000/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

GC Semi VOA (Continued)

Prep Batch: 124000 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-124000/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-124000/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-9072-A-15-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-9072-A-15-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 124033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	8015B NM	123999
890-9074-2	FS 02	Total/NA	Solid	8015B NM	123999
MB 880-123999/1-A	Method Blank	Total/NA	Solid	8015B NM	123999
LCS 880-123999/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	123999
LCSD 880-123999/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	123999
890-9072-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	123999
890-9072-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	123999

Analysis Batch: 124036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-3	FS 04	Total/NA	Solid	8015B NM	124000
890-9074-4	FS 05	Total/NA	Solid	8015B NM	124000
MB 880-124000/1-A	Method Blank	Total/NA	Solid	8015B NM	124000
LCS 880-124000/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	124000
LCSD 880-124000/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	124000
890-9072-A-15-D MS	Matrix Spike	Total/NA	Solid	8015B NM	124000
890-9072-A-15-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	124000

Analysis Batch: 124106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Total/NA	Solid	8015 NM	
890-9074-2	FS 02	Total/NA	Solid	8015 NM	
890-9074-3	FS 04	Total/NA	Solid	8015 NM	
890-9074-4	FS 05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 124005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Soluble	Solid	DI Leach	
890-9074-2	FS 02	Soluble	Solid	DI Leach	
890-9074-3	FS 04	Soluble	Solid	DI Leach	
890-9074-4	FS 05	Soluble	Solid	DI Leach	
MB 880-124005/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-124005/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-124005/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-9072-A-35-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-9072-A-35-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 124042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-1	FS 01	Soluble	Solid	300.0	124005
890-9074-2	FS 02	Soluble	Solid	300.0	124005
890-9074-3	FS 04	Soluble	Solid	300.0	124005

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

HPLC/IC (Continued)

Analysis Batch: 124042 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9074-4	FS 05	Soluble	Solid	300.0	124005
MB 880-124005/1-A	Method Blank	Soluble	Solid	300.0	124005
LCS 880-124005/2-A	Lab Control Sample	Soluble	Solid	300.0	124005
LCSD 880-124005/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	124005
890-9072-A-35-C MS	Matrix Spike	Soluble	Solid	300.0	124005
890-9072-A-35-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	124005

Lab Chronicle

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 01
Date Collected: 11/12/25 14:30
Date Received: 11/13/25 16:25

Lab Sample ID: 890-9074-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	123706	11/16/25 11:58	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	124130	11/17/25 11:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			124225	11/17/25 11:42	SA	EET MID
Total/NA	Analysis	8015 NM		1			124106	11/14/25 14:22	SA	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10.00 mL	123999	11/13/25 17:30	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	124033	11/14/25 14:22	FC	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	124005	11/14/25 07:55	SA	EET MID
Soluble	Analysis	300.0		5			124042	11/14/25 13:29	CS	EET MID

Client Sample ID: FS 02
Date Collected: 11/12/25 14:34
Date Received: 11/13/25 16:25

Lab Sample ID: 890-9074-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	123706	11/16/25 11:58	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	124130	11/17/25 12:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			124225	11/17/25 12:02	SA	EET MID
Total/NA	Analysis	8015 NM		1			124106	11/14/25 14:37	SA	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10.00 mL	123999	11/13/25 17:30	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	124033	11/14/25 14:37	FC	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	124005	11/14/25 07:55	SA	EET MID
Soluble	Analysis	300.0		1			124042	11/14/25 13:35	CS	EET MID

Client Sample ID: FS 04
Date Collected: 11/12/25 13:04
Date Received: 11/13/25 16:25

Lab Sample ID: 890-9074-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	123706	11/16/25 11:58	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	124130	11/17/25 12:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			124225	11/17/25 12:23	SA	EET MID
Total/NA	Analysis	8015 NM		1			124106	11/14/25 21:23	SA	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10.00 mL	124000	11/13/25 17:33	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	124036	11/14/25 21:23	FC	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	124005	11/14/25 07:55	SA	EET MID
Soluble	Analysis	300.0		1			124042	11/14/25 13:52	CS	EET MID

Client Sample ID: FS 05
Date Collected: 11/12/25 14:38
Date Received: 11/13/25 16:25

Lab Sample ID: 890-9074-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	123706	11/16/25 11:58	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	124130	11/17/25 12:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			124225	11/17/25 12:43	SA	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Client Sample ID: FS 05

Date Collected: 11/12/25 14:38
Date Received: 11/13/25 16:25

Lab Sample ID: 890-9074-4

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			124106	11/14/25 21:38	SA	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10.00 mL	124000	11/13/25 17:33	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	124036	11/14/25 21:38	FC	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	124005	11/14/25 07:55	SA	EET MID
Soluble	Analysis	300.0		1			124042	11/14/25 13:58	CS	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: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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	06-30-26

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: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

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: Empire Abo Unit #291

Job ID: 890-9074-1
SDG: 07A1988314

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9074-1	FS 01	Solid	11/12/25 14:30	11/13/25 16:25	4'
890-9074-2	FS 02	Solid	11/12/25 14:34	11/13/25 16:25	4'
890-9074-3	FS 04	Solid	11/12/25 13:04	11/13/25 16:25	4'
890-9074-4	FS 05	Solid	11/12/25 14:38	11/13/25 16:25	4'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Kara Naegeli	Bill to: (if different)	Billy Ginn
Company Name:	Ensolum, LLC	Company Name:	Hilcorp
Address:	3122 National Parks Hwy	Address:	1111 Travis Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Houston, TX 77002
Phone:	817-683-2503 Email:		knaegeli@ensolum.com; aferrell@ensolum.com; kjennings@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

g: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

les: EDD ☐ ADaPT ☐ Other:

Project Name:	Empire Abo Unit #291	Turn Around	
Project Number:	07A1988314	☐ Routine	☑ Rush
Project Location:	32.785, -104.1929	Due Date:	48-hr
Sampler's Name:	Alex Ferrell	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:		IR#6
Cooler Custody Seals:	Yes No N/A	Correction Factor:		0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:		0.4
Total Containers:		Corrected Temperature:		0.2

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chloride 300	TPH 8015	BTEX 8021	Sample Comments
FS01	Soil	11/12/2025	1430	4'	Comp	1	X	X	X	
FS02	Soil	11/12/2025	1434	4'	Comp	1	X	X	X	
FS04	Soil	11/12/2025	1304	4'	Comp	1	X	X	X	
FS05	Soil	11/12/2025	1438	4'	Comp	1	X	X	X	

AF

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			2		
3			4		
5			6		

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-6113.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-9074-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 11/17/2025			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: EMPIRE ABO UNIT #291	Project #: 89000110			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACHChloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS 01 (890-9074-1)	11/12/25	14:30 Mountain	G	Solid			X	X	X	X	X	1	
FS 02 (890-9074-2)	11/12/25	14:34 Mountain	G	Solid			X	X	X	X	X	1	
FS 04 (890-9074-3)	11/12/25	13:04 Mountain	G	Solid			X	X	X	X	X	1	
FS 05 (890-9074-4)	11/12/25	14:38 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/17 4:32	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/14/25	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4/3.3 -1

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9074-1
SDG Number: 07A1988314

Login Number: 9074
List Number: 1
Creator: Bruns, Shannon

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: 890-9074-1
SDG Number: 07A1988314

Login Number: 9074
List Number: 2
Creator: Laing, Edmundo

List Source: Eurofins Midland
List Creation: 11/14/25 09:17 AM

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

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kara Naegeli
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/3/2025 2:17:42 PM

JOB DESCRIPTION

Empire Abo Unit 291
07A1988332

JOB NUMBER

890-9139-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

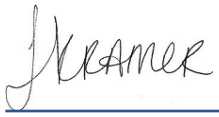
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
12/3/2025 2:17:42 PM

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

Client: Ensolum
Project/Site: Empire Abo Unit 291

Laboratory Job ID: 890-9139-1
SDG: 07A1988332

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project: Empire Abo Unit 291

Job ID: 890-9139-1

Job ID: 890-9139-1 Eurofins Carlsbad

Job Narrative
890-9139-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The sample was received on 11/25/2025 9:23 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.2°C.

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS 13 (890-9139-1).

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

Diesel Range Organics
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-124993/3-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS 13 (890-9139-1). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Client Sample ID: FS 13

Date Collected: 11/24/25 12:56
Date Received: 11/25/25 09:23
Sample Depth: 4

Lab Sample ID: 890-9139-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/26/25 12:01	11/26/25 18:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/26/25 12:01	11/26/25 18:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/26/25 12:01	11/26/25 18:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/26/25 12:01	11/26/25 18:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/26/25 12:01	11/26/25 18:53	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/26/25 12:01	11/26/25 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*11/26/25 12:01*	*11/26/25 18:53*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*11/26/25 12:01*	*11/26/25 18:53*	*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			11/26/25 18:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**69.9**		50.1		mg/Kg			12/02/25 14:06	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	<50.1	U	50.1		mg/Kg		11/25/25 08:04	12/02/25 14:06	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		11/25/25 08:04	12/02/25 14:06	1
Oil Range Organics (Over C28-C36)	**69.9**		50.1		mg/Kg		11/25/25 08:04	12/02/25 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*11/25/25 08:04*	*12/02/25 14:06*	*1*
o-Terphenyl	*140*	*S1+*	*70 - 130*	*11/25/25 08:04*	*12/02/25 14:06*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**282**		10.1		mg/Kg			11/26/25 23:46	1

Surrogate Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-65436-A-101-G MS	Matrix Spike	112	95
880-65436-A-101-H MSD	Matrix Spike Duplicate	117	103
890-9139-1	FS 13	106	90
LCS 880-125114/1-A	Lab Control Sample	112	105
LCSD 880-125114/2-A	Lab Control Sample Dup	105	93
MB 880-125114/5-A	Method Blank	112	93

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-9135-A-44-B MS	Matrix Spike	120	119
890-9135-A-44-C MSD	Matrix Spike Duplicate	128	127
890-9139-1	FS 13	133 S1+	140 S1+
LCS 880-124993/2-A	Lab Control Sample	114	112
LCSD 880-124993/3-A	Lab Control Sample Dup	126	132 S1+
MB 880-124993/1-A	Method Blank	114	121

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-125114/5-A
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 125114

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/26/25 07:29	11/26/25 12:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/26/25 07:29	11/26/25 12:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/26/25 07:29	11/26/25 12:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/26/25 07:29	11/26/25 12:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/26/25 07:29	11/26/25 12:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/26/25 07:29	11/26/25 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*11/26/25 07:29*	*11/26/25 12:29*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*11/26/25 07:29*	*11/26/25 12:29*	*1*

Lab Sample ID: LCS 880-125114/1-A
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 125114

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09559		mg/Kg		96	70 - 130		
Toluene			0.100	0.08581		mg/Kg		86	70 - 130		
Ethylbenzene			0.100	0.09024		mg/Kg		90	70 - 130		
m-Xylene & p-Xylene			0.200	0.1972		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1017		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-125114/2-A
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 125114

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09556		mg/Kg		96	70 - 130	0	35
Toluene			0.100	0.08421		mg/Kg		84	70 - 130	2	35
Ethylbenzene			0.100	0.1033		mg/Kg		103	70 - 130	13	35
m-Xylene & p-Xylene			0.200	0.1862		mg/Kg		93	70 - 130	6	35
o-Xylene			0.100	0.09380		mg/Kg		94	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: 880-65436-A-101-G MS
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 125114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.100	0.07509		mg/Kg		75	70 - 130		
Toluene	<0.00200	U	0.100	0.08135		mg/Kg		81	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

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

Lab Sample ID: 880-65436-A-101-G MS
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 125114

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.08552		mg/Kg		86	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1847		mg/Kg		92	70 - 130
o-Xylene	<0.00200	U	0.100	0.09702		mg/Kg		97	70 - 130

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

Lab Sample ID: 880-65436-A-101-H MSD
Matrix: Solid
Analysis Batch: 125134

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 125114

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08018		mg/Kg		80	70 - 130	7	35
Toluene	<0.00200	U	0.100	0.08110		mg/Kg		81	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.100	0.09317		mg/Kg		93	70 - 130	9	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1960		mg/Kg		98	70 - 130	6	35
o-Xylene	<0.00200	U	0.100	0.1015		mg/Kg		102	70 - 130	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*

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

Lab Sample ID: MB 880-124993/1-A
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 124993

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		11/25/25 08:04	12/02/25 07:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/25/25 08:04	12/02/25 07:44	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/25/25 08:04	12/02/25 07:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*11/25/25 08:04*	*12/02/25 07:44*	*1*
o-Terphenyl	*121*		*70 - 130*	*11/25/25 08:04*	*12/02/25 07:44*	*1*

Lab Sample ID: LCS 880-124993/2-A
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 124993

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	902.3		mg/Kg		90	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1043		mg/Kg		104	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

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

Lab Sample ID: LCS 880-124993/2-A
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 124993

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	114		70 - 130
o-Terphenyl	112		70 - 130

Lab Sample ID: LCSD 880-124993/3-A
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 124993

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1001		mg/Kg		100	70 - 130	10	20
Diesel Range Organics (Over C10-C28)			1000	1171		mg/Kg		117	70 - 130	12	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	126		70 - 130
o-Terphenyl	132	S1+	70 - 130

Lab Sample ID: 890-9135-A-44-B MS
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 124993

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	999	793.0		mg/Kg		79	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	904.3		mg/Kg		89	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	120		70 - 130
o-Terphenyl	119		70 - 130

Lab Sample ID: 890-9135-A-44-C MSD
Matrix: Solid
Analysis Batch: 125367

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 124993

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	778.2		mg/Kg		78	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	948.2		mg/Kg		93	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	128		70 - 130
o-Terphenyl	127		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-125168/1-A
Matrix: Solid
Analysis Batch: 125185

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			11/26/25 22:33	1

Lab Sample ID: LCS 880-125168/2-A
Matrix: Solid
Analysis Batch: 125185

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	235.2		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-125168/3-A
Matrix: Solid
Analysis Batch: 125185

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	237.4		mg/Kg		95	90 - 110	1	20

Lab Sample ID: 820-22227-A-1-C MS
Matrix: Solid
Analysis Batch: 125185

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<10.0	U	251	244.1		mg/Kg		96	90 - 110		

Lab Sample ID: 820-22227-A-1-D MSD
Matrix: Solid
Analysis Batch: 125185

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<10.0	U	251	245.7		mg/Kg		97	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

GC VOA

Prep Batch: 125114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	5035	
MB 880-125114/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-125114/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-125114/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-65436-A-101-G MS	Matrix Spike	Total/NA	Solid	5035	
880-65436-A-101-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 125134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	8021B	125114
MB 880-125114/5-A	Method Blank	Total/NA	Solid	8021B	125114
LCS 880-125114/1-A	Lab Control Sample	Total/NA	Solid	8021B	125114
LCSD 880-125114/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	125114
880-65436-A-101-G MS	Matrix Spike	Total/NA	Solid	8021B	125114
880-65436-A-101-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	125114

Analysis Batch: 125211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 124993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	8015NM Prep	
MB 880-124993/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-124993/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-124993/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-9135-A-44-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-9135-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 125367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	8015B NM	124993
MB 880-124993/1-A	Method Blank	Total/NA	Solid	8015B NM	124993
LCS 880-124993/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	124993
LCSD 880-124993/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	124993
890-9135-A-44-B MS	Matrix Spike	Total/NA	Solid	8015B NM	124993
890-9135-A-44-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	124993

Analysis Batch: 125569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 125168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Soluble	Solid	DI Leach	
MB 880-125168/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-125168/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-125168/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

HPLC/IC (Continued)

Leach Batch: 125168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-22227-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
820-22227-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 125185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9139-1	FS 13	Soluble	Solid	300.0	125168
MB 880-125168/1-A	Method Blank	Soluble	Solid	300.0	125168
LCS 880-125168/2-A	Lab Control Sample	Soluble	Solid	300.0	125168
LCSD 880-125168/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	125168
820-22227-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	125168
820-22227-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	125168

Lab Chronicle

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Client Sample ID: FS 13

Date Collected: 11/24/25 12:56
Date Received: 11/25/25 09:23

Lab Sample ID: 890-9139-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	125114	11/26/25 12:01	AA	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	125134	11/26/25 18:53	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			125211	11/26/25 18:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			125569	12/02/25 14:06	SA	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10.00 mL	124993	11/25/25 08:04	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	125367	12/02/25 14:06	FC	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	125168	11/26/25 13:36	SA	EET MID
Soluble	Analysis	300.0		1			125185	11/26/25 23:46	CS	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: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

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	06-30-26

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: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

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: Empire Abo Unit 291

Job ID: 890-9139-1
SDG: 07A1988332

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9139-1	FS 13	Solid	11/24/25 12:56	11/25/25 09:23	4

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kara Naegeli	Bill to: (if different)	Billy Ginn
Company Name:	Ensolum	Company Name:	Hilcorp
Address:	3122 National Parks Hwy	Address:	1111 Travis Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Houston, TX 77002
Phone:	512-709-2473	Email:	knaegeli@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:	Empire Abo Unit 291	Turn Around	
Project Number:	07A1988332	☑ Routine ☐ Rush	
Project Location:	32.785, -104.1929	Due Date:	
Sampler's Name:	Kaoru Shimada	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:	TMCC7	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	0	
Total Containers:		Corrected Temperature:	-0.2	

890-9139 Chain of Custody

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Parameters: CHLORIDES (4500)	TPH (8015M)	BTEX (8021)	TCLP	RCRA 11	Metals
SK ~~SW05~~	Soil	11/24/2025	1537	0-4'	Comp	1	x	x	x			
SK ~~SW06~~	Soil	11/24/2025	1325	0-4'	Comp	1	x	x	x			
FS13	Soil	11/24/2025	1256	4	Comp	1	x	x	x			

Sample Comments

Incident ID:

Cost Center:

AFE:

NFE SK 11/24/2025

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		11-25 923	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-6185.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-9139-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/3/2025			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: EMPIRE ABO UNIT 291	Project #: 89000236			
Site: N/A	SSOW#: N/A			Other: N/A

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS 13 (890-9139-1)	11/24/25	12:56 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9139-1
SDG Number: 07A1988332

Login Number: 9139
List Number: 1
Creator: Bruns, Shannon

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: 890-9139-1
SDG Number: 07A1988332

Login Number: 9139
List Number: 2
Creator: Vasquez, Julisa

List Source: Eurofins Midland
List Creation: 11/26/25 08:22 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 12/5/2025 1:38:30 PM

JOB DESCRIPTION

EMPIRE ABO UNIT 291
07A1988332

JOB NUMBER

890-9146-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

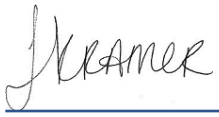
Eurofins Carlsbad

Job Notes

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

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

Authorization



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

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Laboratory Job ID: 890-9146-1
SDG: 07A1988332

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum Job ID: 890-9146-1
Project: EMPIRE ABO UNIT 291

Job ID: 890-9146-1 Eurofins Carlsbad

Job Narrative
890-9146-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The sample was received on 11/26/2025 8:49 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was -0.6°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: FS 08 (890-9146-1).

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

Diesel Range Organics
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (LCS 880-125350/2-A) and (LCSD 880-125350/3-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: FS 08 (890-9146-1) and (880-65542-A-7-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: (880-65542-A-7-B MS) and (880-65542-A-7-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Client Sample Results

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Client Sample ID: FS 08

Date Collected: 11/25/25 15:09
Date Received: 11/26/25 08:49
Sample Depth: 12'

Lab Sample ID: 890-9146-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/02/25 11:58	12/03/25 06:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/02/25 11:58	12/03/25 06:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/02/25 11:58	12/03/25 06:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/02/25 11:58	12/03/25 06:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/02/25 11:58	12/03/25 06:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/02/25 11:58	12/03/25 06:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*12/02/25 11:58*	*12/03/25 06:03*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*12/02/25 11:58*	*12/03/25 06:03*	*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			12/03/25 06:03	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			12/05/25 02:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/02/25 09:01	12/05/25 02:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/02/25 09:01	12/05/25 02:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/02/25 09:01	12/05/25 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*135*	*S1+*	*70 - 130*	*12/02/25 09:01*	*12/05/25 02:53*	*1*
o-Terphenyl	*172*	*S1+*	*70 - 130*	*12/02/25 09:01*	*12/05/25 02:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**211**		9.94		mg/Kg			12/02/25 16:49	1

Surrogate Summary

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-65542-A-1-C MS	Matrix Spike	118	116
880-65542-A-1-D MSD	Matrix Spike Duplicate	116	113
890-9146-1	FS 08	109	119
LCS 880-125407/1-A	Lab Control Sample	112	110
LCSD 880-125407/2-A	Lab Control Sample Dup	111	98
MB 880-125339/5-A	Method Blank	115	109
MB 880-125407/5-A	Method Blank	113	111

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-65542-A-7-B MS	Matrix Spike	130	151 S1+
880-65542-A-7-C MSD	Matrix Spike Duplicate	128	146 S1+
890-9146-1	FS 08	135 S1+	172 S1+
LCS 880-125350/2-A	Lab Control Sample	124	162 S1+
LCSD 880-125350/3-A	Lab Control Sample Dup	123	152 S1+
MB 880-125350/1-A	Method Blank	130	168 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-125339/5-A
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 125339

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/02/25 08:23	12/02/25 11:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/02/25 08:23	12/02/25 11:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/02/25 08:23	12/02/25 11:09	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/02/25 08:23	12/02/25 11:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/02/25 08:23	12/02/25 11:09	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/02/25 08:23	12/02/25 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*12/02/25 08:23*	*12/02/25 11:09*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*12/02/25 08:23*	*12/02/25 11:09*	*1*

Lab Sample ID: MB 880-125407/5-A
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 125407

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/02/25 11:58	12/02/25 22:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/02/25 11:58	12/02/25 22:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/02/25 11:58	12/02/25 22:41	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/02/25 11:58	12/02/25 22:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/02/25 11:58	12/02/25 22:41	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/02/25 11:58	12/02/25 22:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*12/02/25 11:58*	*12/02/25 22:41*	*1*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*	*12/02/25 11:58*	*12/02/25 22:41*	*1*

Lab Sample ID: LCS 880-125407/1-A
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 125407

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.08951		mg/Kg		90	70 - 130		
Toluene			0.100	0.09450		mg/Kg		94	70 - 130		
Ethylbenzene			0.100	0.09583		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.1972		mg/Kg		99	70 - 130		
o-Xylene			0.100	0.1017		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*

Lab Sample ID: LCSD 880-125407/2-A
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 125407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08368		mg/Kg		84	70 - 130	7	35

QC Sample Results

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

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

Lab Sample ID: LCSD 880-125407/2-A
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 125407

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.08756		mg/Kg		88	70 - 130	8	35
Ethylbenzene			0.100	0.08809		mg/Kg		88	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1791		mg/Kg		90	70 - 130	10	35
o-Xylene			0.100	0.09156		mg/Kg		92	70 - 130	11	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-65542-A-1-C MS
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 125407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.08674		mg/Kg		87	70 - 130
Toluene	<0.00200	U	0.100	0.09111		mg/Kg		91	70 - 130
Ethylbenzene	<0.00200	U	0.100	0.09082		mg/Kg		91	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1863		mg/Kg		93	70 - 130
o-Xylene	<0.00200	U	0.100	0.09501		mg/Kg		95	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*

Lab Sample ID: 880-65542-A-1-D MSD
Matrix: Solid
Analysis Batch: 125340

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 125407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08661		mg/Kg		87	70 - 130	0	35
Toluene	<0.00200	U	0.100	0.09019		mg/Kg		90	70 - 130	1	35
Ethylbenzene	<0.00200	U	0.100	0.09020		mg/Kg		90	70 - 130	1	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1849		mg/Kg		92	70 - 130	1	35
o-Xylene	<0.00200	U	0.100	0.09419		mg/Kg		94	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

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

Lab Sample ID: MB 880-125350/1-A
Matrix: Solid
Analysis Batch: 125629

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 125350

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/02/25 09:01	12/04/25 23:39	1

QC Sample Results

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

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

Lab Sample ID: MB 880-125350/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 125629 — **Prep Batch: 125350**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/02/25 09:01	12/04/25 23:39	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/02/25 09:01	12/04/25 23:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*12/02/25 09:01*	*12/04/25 23:39*	*1*
o-Terphenyl	*168*	*S1+*	*70 - 130*	*12/02/25 09:01*	*12/04/25 23:39*	*1*

Lab Sample ID: LCS 880-125350/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 125629 — **Prep Batch: 125350**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1027		mg/Kg		103	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1162		mg/Kg		116	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*124*		*70 - 130*
o-Terphenyl	*162*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-125350/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 125629 — **Prep Batch: 125350**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1059		mg/Kg		106	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1133		mg/Kg		113	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*123*		*70 - 130*
o-Terphenyl	*152*	*S1+*	*70 - 130*

Lab Sample ID: 880-65542-A-7-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 125629 — **Prep Batch: 125350**

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	1000	915.0		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	911.9		mg/Kg		91	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*130*		*70 - 130*
o-Terphenyl	*151*	*S1+*	*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

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

Lab Sample ID: 880-65542-A-7-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 125629 — **Prep Batch: 125350**

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	1000	912.2		mg/Kg		91	70 - 130	0	20
Diesel Range Organics (Over C10-C28)	<49.9	U	1000	892.7		mg/Kg		89	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*128*		*70 - 130*
o-Terphenyl	*146*	*S1+*	*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-125371/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 125435

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			12/02/25 14:22	1

Lab Sample ID: LCS 880-125371/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 125435

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	226.9		mg/Kg		91	90 - 110		

Lab Sample ID: 880-65562-A-3-B MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 125435

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	189		249	423.8		mg/Kg		95	90 - 110		

Lab Sample ID: 880-65562-A-3-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 125435

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	189		249	423.3		mg/Kg		94	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

GC VOA

Prep Batch: 125339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-125339/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 125340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	8021B	125407
MB 880-125339/5-A	Method Blank	Total/NA	Solid	8021B	125339
MB 880-125407/5-A	Method Blank	Total/NA	Solid	8021B	125407
LCS 880-125407/1-A	Lab Control Sample	Total/NA	Solid	8021B	125407
LCSD 880-125407/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	125407
880-65542-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	125407
880-65542-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	125407

Prep Batch: 125407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	5035	
MB 880-125407/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-125407/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-125407/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-65542-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
880-65542-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 125527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 125350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	8015NM Prep	
MB 880-125350/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-125350/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-125350/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-65542-A-7-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-65542-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 125629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	8015B NM	125350
MB 880-125350/1-A	Method Blank	Total/NA	Solid	8015B NM	125350
LCS 880-125350/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	125350
LCSD 880-125350/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	125350
880-65542-A-7-B MS	Matrix Spike	Total/NA	Solid	8015B NM	125350
880-65542-A-7-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	125350

Analysis Batch: 125777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

HPLC/IC

Leach Batch: 125371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Soluble	Solid	DI Leach	
MB 880-125371/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-125371/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
880-65562-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-65562-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 125435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-9146-1	FS 08	Soluble	Solid	300.0	125371
MB 880-125371/1-A	Method Blank	Soluble	Solid	300.0	125371
LCS 880-125371/2-A	Lab Control Sample	Soluble	Solid	300.0	125371
880-65562-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	125371
880-65562-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	125371

Lab Chronicle

Client: Ensolum
Project/Site: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Client Sample ID: FS 08

Date Collected: 11/25/25 15:09
Date Received: 11/26/25 08:49

Lab Sample ID: 890-9146-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	125407	12/02/25 11:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	125340	12/03/25 06:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			125527	12/03/25 06:03	SA	EET MID
Total/NA	Analysis	8015 NM		1			125777	12/05/25 02:53	SA	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10.00 mL	125350	12/02/25 09:01	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	125629	12/05/25 02:53	FC	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	125371	12/02/25 10:26	SA	EET MID
Soluble	Analysis	300.0		1			125435	12/02/25 16:49	CS	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: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

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	06-30-26

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: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

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: EMPIRE ABO UNIT 291

Job ID: 890-9146-1
SDG: 07A1988332

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-9146-1	FS 08	Solid	11/25/25 15:09	11/26/25 08:49	12'

eurofins | Environment Testing Xenco

Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Kara Naegeli	Bill to: (if different)	Billy Ginn
Company Name:	Ensolum	Company Name:	Hilcorp
Address:	3122 National Parks Hwy	Address:	1111 Travis Street
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Houston, TX 77002
Phone:	512-709-2473	Email:	knaegeli@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:	Empire Abo Unit 291	**Turn Around**	
Project Number:	07A1988332	☑ Routine ☐ Rush	
Project Location:	32.785, -104.1929	Due Date:	
Sampler's Name:	Kaoru Shimada	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:	TNMCC
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	-0.8
Total Containers:		Corrected Temperature:	-0.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (4500)	TPH (8015M)	BTEX (8021)	TCLP	RCRA 11	Metals
FS08	Soil	11/25/2025	1509	12'	Comp	1		x	x	x			

890-9146 Chain of Custody

Preservative Codes

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

Sample Comments

Incident ID:

Cost Center:

AFE:

NFE SK 11/25/2025

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		11-26 849	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-6190.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-9146-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/4/2025			
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: EMPIRE ABO UNIT 291	Project #: 89000236			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH/Chloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS 08 (890-9146-1)	11/25/25	15:09 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 4:08	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/1/25 1200	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: ~~20-3-12-2~~ IR8 (-0.1) 4.9/4.8

Ver: 10/10/2024

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-6190.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-9146-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/4/2025			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: EMPIRE ABO UNIT 291	Project #: 89000236			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH/Chloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS 08 (890-9146-1)	11/25/25	15:09 Mountain	G	Solid			X	X	X	X	X	1	

Analysis Requested

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	4.08			12.3.25 8:00	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3/2.2 IR8 (-0.1)

Ver: 10/10/2024

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone: 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kramer, Jessica	Carrier Tracking No(s): N/A	COC No: 890-6190.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-9146-1
Address: 1211 W. Florida Ave, ,	Due Date Requested: 12/4/2025			Preservation Codes: -
City: Midland	TAT Requested (days): N/A			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: EMPIRE ABO UNIT 291	Project #: 89000236			
Site: N/A	SSOW#: N/A			Other: N/A

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep(MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc(MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
FS 08 (890-9146-1)	11/25/25	15:09 Mountain	G	Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		4:08			12.5.25 8:00	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.3/2.2 IR8 (-0.1)

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-9146-1
SDG Number: 07A1988332

Login Number: 9146
List Number: 1
Creator: Bruns, Shannon

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: 890-9146-1
SDG Number: 07A1988332

Login Number: 9146
List Number: 2
Creator: Vasquez, Julisa

List Source: Eurofins Midland
List Creation: 12/02/25 09:45 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

Empire Abo Unit 291

JOB NUMBER

880-66499-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

See page two for job notes and contact information.

my EOL

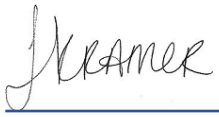
Eurofins Midland

Job Notes

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

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

Authorization



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

Client: Ensolum
Project/Site: Empire Abo Unit 291

Laboratory Job ID: 880-66499-1

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project: Empire Abo Unit 291

Job ID: 880-66499-1

Job ID: 880-66499-1 Eurofins Midland

Job Narrative
880-66499-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt
The samples were received on 12/26/2025 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.0°C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-127936 and analytical batch 880-127956 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS11 (880-66499-3), FS12 (880-66499-4), FS14 (880-66499-5), FS16 (880-66499-6), FS17 (880-66499-7), SW01 (880-66499-8), SW02 (880-66499-9), SW03 (880-66499-10), SW08 (880-66499-13), SW09 (880-66499-14), SW10 (880-66499-15), SW11 (880-66499-16) and FS15 (880-66499-17). Evidence of matrix interferences is not obvious.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-127795, 880-127936 and 880-127986 and analytical batch 880-127956 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.

Diesel Range Organics
Method 8015MOD_NM: The continuing calibration verification (CCV) associated with batch 880-128146 recovered above the upper control limit for Gasoline Range Organics (GRO)-C6-C10. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-9282-A-6-B MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS10 (880-66499-2). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-127716/1-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SW11 (880-66499-16). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-127703 and analytical batch 880-128146 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.

Eurofins Midland

Case Narrative

Client: Ensolum
Job ID: 880-66499-1
Project: Empire Abo Unit 291

Job ID: 880-66499-1 (Continued)

Eurofins Midland

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS09
Lab Sample ID: 880-66499-1
Date Collected: 12/24/25 09:14
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 6'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U F1 F2	0.00200		mg/Kg		12/30/25 11:12	01/01/26 11:00	1
Toluene	<0.00200	U F1 F2	0.00200		mg/Kg		12/30/25 11:12	01/01/26 11:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 11:00	1
m-Xylene & p-Xylene	<0.00399	U F1	0.00399		mg/Kg		12/30/25 11:12	01/01/26 11:00	1
o-Xylene	**0.00247**		0.00200		mg/Kg		12/30/25 11:12	01/01/26 11:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/30/25 11:12	01/01/26 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*12/30/25 11:12*	*01/01/26 11:00*	*1*
1,4-Difluorobenzene (Surr)	*116*		*70 - 130*	*12/30/25 11:12*	*01/01/26 11:00*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/01/26 11:00	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			01/04/26 21:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 21:20	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 21:20	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 21:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*12/26/25 10:28*	*01/04/26 21:20*	*1*
o-Terphenyl	*103*		*70 - 130*	*12/26/25 10:28*	*01/04/26 21:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**194**		10.1		mg/Kg			12/30/25 10:03	1

Client Sample ID: FS10
Lab Sample ID: 880-66499-2
Date Collected: 12/24/25 09:16
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

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		12/30/25 11:12	01/01/26 11:20	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 11:20	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 11:20	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 11:20	1
o-Xylene	**0.00299**		0.00201		mg/Kg		12/30/25 11:12	01/01/26 11:20	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 11:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*130*		*70 - 130*	*12/30/25 11:12*	*01/01/26 11:20*	*1*

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS10
Lab Sample ID: 880-66499-2
Date Collected: 12/24/25 09:16
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*12/30/25 11:12*	*01/01/26 11:20*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/01/26 11:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/04/26 21:34	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 21:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 21:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 21:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*134*	*S1+*	*70 - 130*	*12/26/25 10:28*	*01/04/26 21:34*	*1*
o-Terphenyl	*115*		*70 - 130*	*12/26/25 10:28*	*01/04/26 21:34*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**142**		10.0	mg/Kg			12/30/25 10:10	1

Client Sample ID: FS11
Lab Sample ID: 880-66499-3
Date Collected: 12/24/25 09:18
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 11:41	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 11:41	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 11:41	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/30/25 11:12	01/01/26 11:41	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 11:41	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/30/25 11:12	01/01/26 11:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*157*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 11:41*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*12/30/25 11:12*	*01/01/26 11:41*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			01/01/26 11:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/04/26 21:49	1

Eurofins Midland

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS11
Lab Sample ID: 880-66499-3
Date Collected: 12/24/25 09:18
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 21:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 21:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 21:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*12/26/25 10:28*	*01/04/26 21:49*	*1*
o-Terphenyl	*94*		*70 - 130*	*12/26/25 10:28*	*01/04/26 21:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**154**		9.96		mg/Kg			12/30/25 10:17	1

Client Sample ID: FS12
Lab Sample ID: 880-66499-4
Date Collected: 12/24/25 09:20
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

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		12/30/25 11:12	01/01/26 12:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 12:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 12:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 12:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 12:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 12:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 12:01*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*12/30/25 11:12*	*01/01/26 12:01*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/01/26 12:01	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/04/26 22:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 22:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 22:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 22:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:04*	*1*
o-Terphenyl	*94*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:04*	*1*

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS12
Lab Sample ID: 880-66499-4
Date Collected: 12/24/25 09:20
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 14'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		9.92		mg/Kg			12/30/25 10:24	1

Client Sample ID: FS14
Lab Sample ID: 880-66499-5
Date Collected: 12/24/25 09:22
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 6'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 12:22	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 12:22	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 12:22	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 12:22	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 12:22	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*139*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 12:22*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*12/30/25 11:12*	*01/01/26 12:22*	*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			01/01/26 12:22	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/04/26 22:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 22:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 22:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 22:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:19*	*1*
o-Terphenyl	*96*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:19*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	149		9.94		mg/Kg			12/30/25 10:31	1

Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

Client Sample ID: FS16

Lab Sample ID: 880-66499-6
Matrix: Solid
Date Collected: 12/24/25 09:24
Date Received: 12/26/25 09:50
Sample Depth: 6'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 12:42	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 12:42	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 12:42	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/30/25 11:12	01/01/26 12:42	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 12:42	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/30/25 11:12	01/01/26 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 12:42*	*1*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*	*12/30/25 11:12*	*01/01/26 12:42*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/01/26 12:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			01/04/26 22:49	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 22:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 22:49	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:49*	*1*
o-Terphenyl	*97*		*70 - 130*	*12/26/25 10:28*	*01/04/26 22:49*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**165**		9.92		mg/Kg			12/30/25 10:52	1

Client Sample ID: FS17

Lab Sample ID: 880-66499-7
Matrix: Solid
Date Collected: 12/24/25 09:26
Date Received: 12/26/25 09:50
Sample Depth: 12'

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		12/30/25 11:12	01/01/26 13:03	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 13:03	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 13:03	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 13:03	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 13:03	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 13:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 13:03*	*1*

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Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS17
Lab Sample ID: 880-66499-7
Date Collected: 12/24/25 09:26
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 12'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*12/30/25 11:12*	*01/01/26 13:03*	*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			01/01/26 13:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			01/04/26 23:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 23:03	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 23:03	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/26/25 10:28	01/04/26 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:03*	*1*
o-Terphenyl	*100*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:03*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**174**		10.0	mg/Kg			12/30/25 10:59	1

Client Sample ID: SW01
Lab Sample ID: 880-66499-8
Date Collected: 12/24/25 09:28
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 13:23	1
Toluene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 13:23	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 13:23	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		12/30/25 11:12	01/01/26 13:23	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		12/30/25 11:12	01/01/26 13:23	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		12/30/25 11:12	01/01/26 13:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 13:23*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*12/30/25 11:12*	*01/01/26 13:23*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			01/01/26 13:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			01/04/26 23:18	1

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Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW01
Lab Sample ID: 880-66499-8
Date Collected: 12/24/25 09:28
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 23:18	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 23:18	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/04/26 23:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:18*	*1*
o-Terphenyl	*102*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**154**		9.90		mg/Kg			12/30/25 11:10	1

Client Sample ID: SW02
Lab Sample ID: 880-66499-9
Date Collected: 12/24/25 09:32
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 13:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 13:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 13:44	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 13:44	1
o-Xylene	**0.00313**		0.00199		mg/Kg		12/30/25 11:12	01/01/26 13:44	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*149*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 13:44*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*12/30/25 11:12*	*01/01/26 13:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/01/26 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			01/04/26 23:33	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 23:33	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 23:33	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/04/26 23:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:33*	*1*
o-Terphenyl	*106*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:33*	*1*

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW02
Lab Sample ID: 880-66499-9
Date Collected: 12/24/25 09:32
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	183		9.92		mg/Kg			12/30/25 11:19	1

Client Sample ID: SW03
Lab Sample ID: 880-66499-10
Date Collected: 12/24/25 09:34
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 14:04	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 14:04	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 14:04	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 14:04	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 14:04	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*141*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 14:04*	*1*
1,4-Difluorobenzene (Surr)	*123*		*70 - 130*	*12/30/25 11:12*	*01/01/26 14:04*	*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			01/01/26 14:04	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/04/26 23:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 23:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 23:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/26/25 10:28	01/04/26 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:47*	*1*
o-Terphenyl	*102*		*70 - 130*	*12/26/25 10:28*	*01/04/26 23:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	176		10.0		mg/Kg			12/30/25 11:26	1

Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

Client Sample ID: SW05

Lab Sample ID: 880-66499-11
Matrix: Solid
Date Collected: 12/24/25 09:36
Date Received: 12/26/25 09:50
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		12/30/25 11:12	01/01/26 15:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 15:55	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 15:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 15:55	1
o-Xylene	**0.00209**		0.00199		mg/Kg		12/30/25 11:12	01/01/26 15:55	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*12/30/25 11:12*	*01/01/26 15:55*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/30/25 11:12*	*01/01/26 15:55*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/01/26 15:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/05/26 00:02	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:02	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:02	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:02*	*1*
o-Terphenyl	*104*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:02*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**209**		10.1		mg/Kg			12/30/25 11:33	1

Client Sample ID: SW07

Lab Sample ID: 880-66499-12
Matrix: Solid
Date Collected: 12/24/25 09:40
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 16:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 16:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 16:15	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/30/25 11:12	01/01/26 16:15	1
o-Xylene	**0.00307**		0.00200		mg/Kg		12/30/25 11:12	01/01/26 16:15	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/30/25 11:12	01/01/26 16:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*12/30/25 11:12*	*01/01/26 16:15*	*1*

Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW07
Lab Sample ID: 880-66499-12
Date Collected: 12/24/25 09:40
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/30/25 11:12*	*01/01/26 16:15*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			01/01/26 16:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			01/05/26 00:17	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8	mg/Kg		12/26/25 10:28	01/05/26 00:17	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8	mg/Kg		12/26/25 10:28	01/05/26 00:17	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8	mg/Kg		12/26/25 10:28	01/05/26 00:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*108*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:17*	*1*
o-Terphenyl	*100*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:17*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**199**		9.92	mg/Kg			12/30/25 11:54	1

Client Sample ID: SW08
Lab Sample ID: 880-66499-13
Date Collected: 12/24/25 09:42
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-12'

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		12/30/25 11:12	01/01/26 16:35	1
Toluene	<0.00201	U	0.00201	mg/Kg		12/30/25 11:12	01/01/26 16:35	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		12/30/25 11:12	01/01/26 16:35	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		12/30/25 11:12	01/01/26 16:35	1
o-Xylene	**0.00255**		0.00201	mg/Kg		12/30/25 11:12	01/01/26 16:35	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		12/30/25 11:12	01/01/26 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 16:35*	*1*
1,4-Difluorobenzene (Surr)	*114*		*70 - 130*	*12/30/25 11:12*	*01/01/26 16:35*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			01/01/26 16:35	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			01/05/26 00:32	1

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Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW08
Lab Sample ID: 880-66499-13
Date Collected: 12/24/25 09:42
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-12'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/05/26 00:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/05/26 00:32	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		12/26/25 10:28	01/05/26 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:32*	*1*
o-Terphenyl	*103*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**189**		10.0		mg/Kg			12/30/25 12:01	1

Client Sample ID: SW09
Lab Sample ID: 880-66499-14
Date Collected: 12/24/25 09:44
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-6'

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		12/30/25 11:12	01/01/26 16:56	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 16:56	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 16:56	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 16:56	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/30/25 11:12	01/01/26 16:56	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/30/25 11:12	01/01/26 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*138*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 16:56*	*1*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*	*12/30/25 11:12*	*01/01/26 16:56*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/01/26 16:56	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/05/26 00:46	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:46	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:46	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:28	01/05/26 00:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:46*	*1*
o-Terphenyl	*93*		*70 - 130*	*12/26/25 10:28*	*01/05/26 00:46*	*1*

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Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW09
Lab Sample ID: 880-66499-14
Date Collected: 12/24/25 09:44
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-6'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	126		9.94		mg/Kg			12/30/25 12:21	1

Client Sample ID: SW10
Lab Sample ID: 880-66499-15
Date Collected: 12/24/25 09:46
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 0-6'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 17:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 17:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 17:16	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/30/25 11:12	01/01/26 17:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 17:16	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/30/25 11:12	01/01/26 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 17:16*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*12/30/25 11:12*	*01/01/26 17:16*	*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			01/01/26 17:16	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			01/05/26 01:01	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	<50.1	U	50.1		mg/Kg		12/26/25 10:28	01/05/26 01:01	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		12/26/25 10:28	01/05/26 01:01	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		12/26/25 10:28	01/05/26 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*12/26/25 10:28*	*01/05/26 01:01*	*1*
o-Terphenyl	*110*		*70 - 130*	*12/26/25 10:28*	*01/05/26 01:01*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		9.92		mg/Kg			12/30/25 12:28	1

Client Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

Client Sample ID: SW11

Lab Sample ID: 880-66499-16
Matrix: Solid
Date Collected: 12/24/25 09:48
Date Received: 12/26/25 09:50
Sample Depth: 0-4'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 17:37	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/30/25 11:12	01/01/26 17:37	1
Ethylbenzene	**0.00248**		0.00199		mg/Kg		12/30/25 11:12	01/01/26 17:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 17:37	1
o-Xylene	**0.00209**		0.00199		mg/Kg		12/30/25 11:12	01/01/26 17:37	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/30/25 11:12	01/01/26 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 17:37*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*12/30/25 11:12*	*01/01/26 17:37*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00457**		0.00398		mg/Kg			01/01/26 17:37	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/04/26 19:36	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 19:36	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 19:36	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*137*	*S1+*	*70 - 130*	*12/26/25 10:57*	*01/04/26 19:36*	*1*
o-Terphenyl	*121*		*70 - 130*	*12/26/25 10:57*	*01/04/26 19:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**46.4**		10.0		mg/Kg			12/30/25 12:35	1

Client Sample ID: FS15

Lab Sample ID: 880-66499-17
Matrix: Solid
Date Collected: 12/24/25 09:24
Date Received: 12/26/25 09:50
Sample Depth: 6'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 17:57	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 17:57	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 17:57	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 17:57	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/30/25 11:12	01/01/26 17:57	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/30/25 11:12	01/01/26 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 17:57*	*1*

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Client Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS15
Lab Sample ID: 880-66499-17
Date Collected: 12/24/25 09:24
Matrix: Solid
Date Received: 12/26/25 09:50
Sample Depth: 6'

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/30/25 11:12*	*01/01/26 17:57*	*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			01/01/26 17:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/04/26 20:20	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/26/25 10:57	01/04/26 20:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/26/25 10:57	01/04/26 20:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/26/25 10:57	01/04/26 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*120*		*70 - 130*	*12/26/25 10:57*	*01/04/26 20:20*	*1*
o-Terphenyl	*123*		*70 - 130*	*12/26/25 10:57*	*01/04/26 20:20*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**136**		9.98		mg/Kg			12/30/25 12:42	1

Surrogate Summary

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-66499-1	FS09	106	116
880-66499-1 MS	FS09	99	98
880-66499-1 MSD	FS09	121	101
880-66499-2	FS10	130	110
880-66499-3	FS11	157 S1+	123
880-66499-4	FS12	137 S1+	113
880-66499-5	FS14	139 S1+	118
880-66499-6	FS16	141 S1+	121
880-66499-7	FS17	131 S1+	114
880-66499-8	SW01	133 S1+	113
880-66499-9	SW02	149 S1+	119
880-66499-10	SW03	141 S1+	123
880-66499-11	SW05	103	103
880-66499-12	SW07	129	104
880-66499-13	SW08	136 S1+	114
880-66499-14	SW09	138 S1+	113
880-66499-15	SW10	137 S1+	109
880-66499-16	SW11	137 S1+	108
880-66499-17	FS15	136 S1+	106
LCS 880-127936/1-A	Lab Control Sample	108	100
LCSD 880-127936/2-A	Lab Control Sample Dup	104	97
MB 880-127936/5-A	Method Blank	190 S1+	103
MB 880-127986/5-A	Method Blank	144 S1+	82

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-66499-1	FS09	116	103
880-66499-2	FS10	134 S1+	115
880-66499-3	FS11	107	94
880-66499-4	FS12	101	94
880-66499-5	FS14	106	96
880-66499-6	FS16	104	97
880-66499-7	FS17	105	100
880-66499-8	SW01	108	102
880-66499-9	SW02	113	106
880-66499-10	SW03	107	102
880-66499-11	SW05	112	104
880-66499-12	SW07	108	100
880-66499-13	SW08	114	103
880-66499-14	SW09	100	93
880-66499-15	SW10	116	110
880-66499-16	SW11	137 S1+	121

Surrogate Summary

Client: Ensolum Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

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

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

		Percent Surrogate Recovery (Acceptance Limits)									
		1CO1	OTPH1								
Lab Sample ID	Client Sample ID	(70-130)	(70-130)								
880-66499-16 MS	SW11	119	121								
880-66499-16 MSD	SW11	120	117								
880-66499-17	FS15	120	123								
LCS 880-127703/2-A	Lab Control Sample	127	115								
LCS 880-127716/2-A	Lab Control Sample	123	126								
LCSD 880-127703/3-A	Lab Control Sample Dup	126	117								
LCSD 880-127716/3-A	Lab Control Sample Dup	127	128								
MB 880-127703/1-A	Method Blank	428 S1+	492 S1+								
MB 880-127716/1-A	Method Blank	388 S1+	420 S1+								

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-127936/5-A
Matrix: Solid
Analysis Batch: 127956

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127936

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 10:31	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 10:31	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 10:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/30/25 11:12	01/01/26 10:31	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/30/25 11:12	01/01/26 10:31	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/30/25 11:12	01/01/26 10:31	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*190*	*S1+*	*70 - 130*	*12/30/25 11:12*	*01/01/26 10:31*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/30/25 11:12*	*01/01/26 10:31*	*1*

Lab Sample ID: LCS 880-127936/1-A
Matrix: Solid
Analysis Batch: 127956

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1078		mg/Kg		108	70 - 130		
Toluene			0.100	0.1037		mg/Kg		104	70 - 130		
Ethylbenzene			0.100	0.1176		mg/Kg		118	70 - 130		
m-Xylene & p-Xylene			0.200	0.2318		mg/Kg		116	70 - 130		
o-Xylene			0.100	0.1165		mg/Kg		116	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-127936/2-A
Matrix: Solid
Analysis Batch: 127956

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 127936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1008		mg/Kg		101	70 - 130	7	35
Toluene			0.100	0.09920		mg/Kg		99	70 - 130	4	35
Ethylbenzene			0.100	0.1213		mg/Kg		121	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.2348		mg/Kg		117	70 - 130	1	35
o-Xylene			0.100	0.1184		mg/Kg		118	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-66499-1 MS
Matrix: Solid
Analysis Batch: 127956

Client Sample ID: FS09
Prep Type: Total/NA
Prep Batch: 127936

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U F1 F2	0.100	0.08157		mg/Kg		82	70 - 130		
Toluene	<0.00200	U F1 F2	0.100	0.07576		mg/Kg		76	70 - 130		

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QC Sample Results

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

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

Lab Sample ID: 880-66499-1 MS — **Client Sample ID: FS09**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127956 — **Prep Batch: 127936**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.09366		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1683		mg/Kg		84	70 - 130
o-Xylene	0.00247		0.100	0.08501		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 880-66499-1 MSD — **Client Sample ID: FS09**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127956 — **Prep Batch: 127936**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1 F2	0.100	0.05612	F1 F2	mg/Kg		56	70 - 130	37	35
Toluene	<0.00200	U F1 F2	0.100	0.05054	F1 F2	mg/Kg		51	70 - 130	40	35
Ethylbenzene	<0.00200	U	0.100	0.07044		mg/Kg		70	70 - 130	28	35
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1376	F1	mg/Kg		69	70 - 130	20	35
o-Xylene	0.00247		0.100	0.08212		mg/Kg		80	70 - 130	3	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 880-127986/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127956 — **Prep Batch: 127986**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		12/31/25 10:01	12/31/25 22:55	1
Toluene	<0.00200	U	0.00200	mg/Kg		12/31/25 10:01	12/31/25 22:55	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		12/31/25 10:01	12/31/25 22:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		12/31/25 10:01	12/31/25 22:55	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		12/31/25 10:01	12/31/25 22:55	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		12/31/25 10:01	12/31/25 22:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*144*	*S1+*	*70 - 130*	*12/31/25 10:01*	*12/31/25 22:55*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*12/31/25 10:01*	*12/31/25 22:55*	*1*

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

Lab Sample ID: MB 880-127703/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 128146 — **Prep Batch: 127703**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/26/25 10:27	01/04/26 17:52	1

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

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

Lab Sample ID: MB 880-127703/1-A
Matrix: Solid
Analysis Batch: 128146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127703

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:27	01/04/26 17:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:27	01/04/26 17:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*428*	*S1+*	*70 - 130*	*12/26/25 10:27*	*01/04/26 17:52*	*1*
o-Terphenyl	*492*	*S1+*	*70 - 130*	*12/26/25 10:27*	*01/04/26 17:52*	*1*

Lab Sample ID: LCS 880-127703/2-A
Matrix: Solid
Analysis Batch: 128146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127703

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1055		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	955.0		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*127*		*70 - 130*
o-Terphenyl	*115*		*70 - 130*

Lab Sample ID: LCSD 880-127703/3-A
Matrix: Solid
Analysis Batch: 128146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 127703

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1043		mg/Kg		104	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	964.7		mg/Kg		96	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*126*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Lab Sample ID: MB 880-127716/1-A
Matrix: Solid
Analysis Batch: 128148

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127716

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 17:52	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 17:52	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/26/25 10:57	01/04/26 17:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*388*	*S1+*	*70 - 130*	*12/26/25 10:57*	*01/04/26 17:52*	*1*

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

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

Lab Sample ID: MB 880-127716/1-A
Matrix: Solid
Analysis Batch: 128148

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127716

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	420	S1+	70 - 130	12/26/25 10:57	01/04/26 17:52	1

Lab Sample ID: LCS 880-127716/2-A
Matrix: Solid
Analysis Batch: 128148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127716

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	997.1		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1007		mg/Kg		101	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	126		70 - 130

Lab Sample ID: LCSD 880-127716/3-A
Matrix: Solid
Analysis Batch: 128148

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 127716

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1016		mg/Kg		102	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1007		mg/Kg		101	70 - 130	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	127		70 - 130
o-Terphenyl	128		70 - 130

Lab Sample ID: 880-66499-16 MS
Matrix: Solid
Analysis Batch: 128148

Client Sample ID: SW11
Prep Type: Total/NA
Prep Batch: 127716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	914.0		mg/Kg		91	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	990.8		mg/Kg		99	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	119		70 - 130
o-Terphenyl	121		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

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

Lab Sample ID: 880-66499-16 MSD — **Client Sample ID: SW11**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 128148 — **Prep Batch: 127716**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	925.6		mg/Kg		93	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	981.1		mg/Kg		98	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*120*		*70 - 130*
o-Terphenyl	*117*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-127860/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 127904

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			12/30/25 09:27	1

Lab Sample ID: LCS 880-127860/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 127904

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	250.2		mg/Kg		100	90 - 110		

Lab Sample ID: LCSD 880-127860/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 127904

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	245.8		mg/Kg		98	90 - 110	2	20

Lab Sample ID: 880-66499-1 MS — **Client Sample ID: FS09**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 127904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	194		252	450.2		mg/Kg		102	90 - 110		

Lab Sample ID: 880-66499-1 MSD — **Client Sample ID: FS09**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 127904

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	194		252	450.9		mg/Kg		102	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-66499-11 MS
Matrix: Solid
Analysis Batch: 127904

Client Sample ID: SW05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	209		252	477.8		mg/Kg		107	90 - 110		

Lab Sample ID: 880-66499-11 MSD
Matrix: Solid
Analysis Batch: 127904

Client Sample ID: SW05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	209		252	478.5		mg/Kg		107	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

GC VOA

Prep Batch: 127936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	5035	
880-66499-2	FS10	Total/NA	Solid	5035	
880-66499-3	FS11	Total/NA	Solid	5035	
880-66499-4	FS12	Total/NA	Solid	5035	
880-66499-5	FS14	Total/NA	Solid	5035	
880-66499-6	FS16	Total/NA	Solid	5035	
880-66499-7	FS17	Total/NA	Solid	5035	
880-66499-8	SW01	Total/NA	Solid	5035	
880-66499-9	SW02	Total/NA	Solid	5035	
880-66499-10	SW03	Total/NA	Solid	5035	
880-66499-11	SW05	Total/NA	Solid	5035	
880-66499-12	SW07	Total/NA	Solid	5035	
880-66499-13	SW08	Total/NA	Solid	5035	
880-66499-14	SW09	Total/NA	Solid	5035	
880-66499-15	SW10	Total/NA	Solid	5035	
880-66499-16	SW11	Total/NA	Solid	5035	
880-66499-17	FS15	Total/NA	Solid	5035	
MB 880-127936/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-127936/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-127936/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-66499-1 MS	FS09	Total/NA	Solid	5035	
880-66499-1 MSD	FS09	Total/NA	Solid	5035	

Analysis Batch: 127956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	8021B	127936
880-66499-2	FS10	Total/NA	Solid	8021B	127936
880-66499-3	FS11	Total/NA	Solid	8021B	127936
880-66499-4	FS12	Total/NA	Solid	8021B	127936
880-66499-5	FS14	Total/NA	Solid	8021B	127936
880-66499-6	FS16	Total/NA	Solid	8021B	127936
880-66499-7	FS17	Total/NA	Solid	8021B	127936
880-66499-8	SW01	Total/NA	Solid	8021B	127936
880-66499-9	SW02	Total/NA	Solid	8021B	127936
880-66499-10	SW03	Total/NA	Solid	8021B	127936
880-66499-11	SW05	Total/NA	Solid	8021B	127936
880-66499-12	SW07	Total/NA	Solid	8021B	127936
880-66499-13	SW08	Total/NA	Solid	8021B	127936
880-66499-14	SW09	Total/NA	Solid	8021B	127936
880-66499-15	SW10	Total/NA	Solid	8021B	127936
880-66499-16	SW11	Total/NA	Solid	8021B	127936
880-66499-17	FS15	Total/NA	Solid	8021B	127936
MB 880-127936/5-A	Method Blank	Total/NA	Solid	8021B	127936
MB 880-127986/5-A	Method Blank	Total/NA	Solid	8021B	127986
LCS 880-127936/1-A	Lab Control Sample	Total/NA	Solid	8021B	127936
LCSD 880-127936/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	127936
880-66499-1 MS	FS09	Total/NA	Solid	8021B	127936
880-66499-1 MSD	FS09	Total/NA	Solid	8021B	127936

QC Association Summary

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

GC VOA

Prep Batch: 127986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-127986/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 128122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	Total BTEX	
880-66499-2	FS10	Total/NA	Solid	Total BTEX	
880-66499-3	FS11	Total/NA	Solid	Total BTEX	
880-66499-4	FS12	Total/NA	Solid	Total BTEX	
880-66499-5	FS14	Total/NA	Solid	Total BTEX	
880-66499-6	FS16	Total/NA	Solid	Total BTEX	
880-66499-7	FS17	Total/NA	Solid	Total BTEX	
880-66499-8	SW01	Total/NA	Solid	Total BTEX	
880-66499-9	SW02	Total/NA	Solid	Total BTEX	
880-66499-10	SW03	Total/NA	Solid	Total BTEX	
880-66499-11	SW05	Total/NA	Solid	Total BTEX	
880-66499-12	SW07	Total/NA	Solid	Total BTEX	
880-66499-13	SW08	Total/NA	Solid	Total BTEX	
880-66499-14	SW09	Total/NA	Solid	Total BTEX	
880-66499-15	SW10	Total/NA	Solid	Total BTEX	
880-66499-16	SW11	Total/NA	Solid	Total BTEX	
880-66499-17	FS15	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 127703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	8015NM Prep	
880-66499-2	FS10	Total/NA	Solid	8015NM Prep	
880-66499-3	FS11	Total/NA	Solid	8015NM Prep	
880-66499-4	FS12	Total/NA	Solid	8015NM Prep	
880-66499-5	FS14	Total/NA	Solid	8015NM Prep	
880-66499-6	FS16	Total/NA	Solid	8015NM Prep	
880-66499-7	FS17	Total/NA	Solid	8015NM Prep	
880-66499-8	SW01	Total/NA	Solid	8015NM Prep	
880-66499-9	SW02	Total/NA	Solid	8015NM Prep	
880-66499-10	SW03	Total/NA	Solid	8015NM Prep	
880-66499-11	SW05	Total/NA	Solid	8015NM Prep	
880-66499-12	SW07	Total/NA	Solid	8015NM Prep	
880-66499-13	SW08	Total/NA	Solid	8015NM Prep	
880-66499-14	SW09	Total/NA	Solid	8015NM Prep	
880-66499-15	SW10	Total/NA	Solid	8015NM Prep	
MB 880-127703/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-127703/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-127703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Prep Batch: 127716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-16	SW11	Total/NA	Solid	8015NM Prep	
880-66499-17	FS15	Total/NA	Solid	8015NM Prep	
MB 880-127716/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-127716/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

GC Semi VOA (Continued)

Prep Batch: 127716 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-127716/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-66499-16 MS	SW11	Total/NA	Solid	8015NM Prep	
880-66499-16 MSD	SW11	Total/NA	Solid	8015NM Prep	

Analysis Batch: 128146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	8015B NM	127703
880-66499-2	FS10	Total/NA	Solid	8015B NM	127703
880-66499-3	FS11	Total/NA	Solid	8015B NM	127703
880-66499-4	FS12	Total/NA	Solid	8015B NM	127703
880-66499-5	FS14	Total/NA	Solid	8015B NM	127703
880-66499-6	FS16	Total/NA	Solid	8015B NM	127703
880-66499-7	FS17	Total/NA	Solid	8015B NM	127703
880-66499-8	SW01	Total/NA	Solid	8015B NM	127703
880-66499-9	SW02	Total/NA	Solid	8015B NM	127703
880-66499-10	SW03	Total/NA	Solid	8015B NM	127703
880-66499-11	SW05	Total/NA	Solid	8015B NM	127703
880-66499-12	SW07	Total/NA	Solid	8015B NM	127703
880-66499-13	SW08	Total/NA	Solid	8015B NM	127703
880-66499-14	SW09	Total/NA	Solid	8015B NM	127703
880-66499-15	SW10	Total/NA	Solid	8015B NM	127703
MB 880-127703/1-A	Method Blank	Total/NA	Solid	8015B NM	127703
LCS 880-127703/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	127703
LCSD 880-127703/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	127703

Analysis Batch: 128148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-16	SW11	Total/NA	Solid	8015B NM	127716
880-66499-17	FS15	Total/NA	Solid	8015B NM	127716
MB 880-127716/1-A	Method Blank	Total/NA	Solid	8015B NM	127716
LCS 880-127716/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	127716
LCSD 880-127716/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	127716
880-66499-16 MS	SW11	Total/NA	Solid	8015B NM	127716
880-66499-16 MSD	SW11	Total/NA	Solid	8015B NM	127716

Analysis Batch: 128203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Total/NA	Solid	8015 NM	
880-66499-2	FS10	Total/NA	Solid	8015 NM	
880-66499-3	FS11	Total/NA	Solid	8015 NM	
880-66499-4	FS12	Total/NA	Solid	8015 NM	
880-66499-5	FS14	Total/NA	Solid	8015 NM	
880-66499-6	FS16	Total/NA	Solid	8015 NM	
880-66499-7	FS17	Total/NA	Solid	8015 NM	
880-66499-8	SW01	Total/NA	Solid	8015 NM	
880-66499-9	SW02	Total/NA	Solid	8015 NM	
880-66499-10	SW03	Total/NA	Solid	8015 NM	
880-66499-11	SW05	Total/NA	Solid	8015 NM	
880-66499-12	SW07	Total/NA	Solid	8015 NM	
880-66499-13	SW08	Total/NA	Solid	8015 NM	
880-66499-14	SW09	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: Empire Abo Unit 291

Job ID: 880-66499-1

GC Semi VOA (Continued)

Analysis Batch: 128203 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-15	SW10	Total/NA	Solid	8015 NM	
880-66499-16	SW11	Total/NA	Solid	8015 NM	
880-66499-17	FS15	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 127860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Soluble	Solid	DI Leach	
880-66499-2	FS10	Soluble	Solid	DI Leach	
880-66499-3	FS11	Soluble	Solid	DI Leach	
880-66499-4	FS12	Soluble	Solid	DI Leach	
880-66499-5	FS14	Soluble	Solid	DI Leach	
880-66499-6	FS16	Soluble	Solid	DI Leach	
880-66499-7	FS17	Soluble	Solid	DI Leach	
880-66499-8	SW01	Soluble	Solid	DI Leach	
880-66499-9	SW02	Soluble	Solid	DI Leach	
880-66499-10	SW03	Soluble	Solid	DI Leach	
880-66499-11	SW05	Soluble	Solid	DI Leach	
880-66499-12	SW07	Soluble	Solid	DI Leach	
880-66499-13	SW08	Soluble	Solid	DI Leach	
880-66499-14	SW09	Soluble	Solid	DI Leach	
880-66499-15	SW10	Soluble	Solid	DI Leach	
880-66499-16	SW11	Soluble	Solid	DI Leach	
880-66499-17	FS15	Soluble	Solid	DI Leach	
MB 880-127860/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-127860/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-127860/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-66499-1 MS	FS09	Soluble	Solid	DI Leach	
880-66499-1 MSD	FS09	Soluble	Solid	DI Leach	
880-66499-11 MS	SW05	Soluble	Solid	DI Leach	
880-66499-11 MSD	SW05	Soluble	Solid	DI Leach	

Analysis Batch: 127904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-1	FS09	Soluble	Solid	300.0	127860
880-66499-2	FS10	Soluble	Solid	300.0	127860
880-66499-3	FS11	Soluble	Solid	300.0	127860
880-66499-4	FS12	Soluble	Solid	300.0	127860
880-66499-5	FS14	Soluble	Solid	300.0	127860
880-66499-6	FS16	Soluble	Solid	300.0	127860
880-66499-7	FS17	Soluble	Solid	300.0	127860
880-66499-8	SW01	Soluble	Solid	300.0	127860
880-66499-9	SW02	Soluble	Solid	300.0	127860
880-66499-10	SW03	Soluble	Solid	300.0	127860
880-66499-11	SW05	Soluble	Solid	300.0	127860
880-66499-12	SW07	Soluble	Solid	300.0	127860
880-66499-13	SW08	Soluble	Solid	300.0	127860
880-66499-14	SW09	Soluble	Solid	300.0	127860
880-66499-15	SW10	Soluble	Solid	300.0	127860
880-66499-16	SW11	Soluble	Solid	300.0	127860

QC Association Summary

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

HPLC/IC (Continued)

Analysis Batch: 127904 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-66499-17	FS15	Soluble	Solid	300.0	127860
MB 880-127860/1-A	Method Blank	Soluble	Solid	300.0	127860
LCS 880-127860/2-A	Lab Control Sample	Soluble	Solid	300.0	127860
LCSD 880-127860/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	127860
880-66499-1 MS	FS09	Soluble	Solid	300.0	127860
880-66499-1 MSD	FS09	Soluble	Solid	300.0	127860
880-66499-11 MS	SW05	Soluble	Solid	300.0	127860
880-66499-11 MSD	SW05	Soluble	Solid	300.0	127860

Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS09
Lab Sample ID: 880-66499-1
Date Collected: 12/24/25 09:14
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 11:00
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 11:00
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 21:20
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 21:20
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:03

Client Sample ID: FS10
Lab Sample ID: 880-66499-2
Date Collected: 12/24/25 09:16
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 11:20
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 11:20
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 21:34
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 21:34
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:10

Client Sample ID: FS11
Lab Sample ID: 880-66499-3
Date Collected: 12/24/25 09:18
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 11:41
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 11:41
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 21:49
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 21:49
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:17

Client Sample ID: FS12
Lab Sample ID: 880-66499-4
Date Collected: 12/24/25 09:20
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 12:01
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 12:01

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Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS12
Lab Sample ID: 880-66499-4
Date Collected: 12/24/25 09:20
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 22:04
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 22:04
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:24

Client Sample ID: FS14
Lab Sample ID: 880-66499-5
Date Collected: 12/24/25 09:22
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 12:22
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 12:22
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 22:19
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 22:19
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:31

Client Sample ID: FS16
Lab Sample ID: 880-66499-6
Date Collected: 12/24/25 09:24
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 12:42
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 12:42
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 22:49
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 22:49
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:52

Client Sample ID: FS17
Lab Sample ID: 880-66499-7
Date Collected: 12/24/25 09:26
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 13:03
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 13:03
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 23:03
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 23:03

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Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS17
Lab Sample ID: 880-66499-7
Date Collected: 12/24/25 09:26
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 10:59

Client Sample ID: SW01
Lab Sample ID: 880-66499-8
Date Collected: 12/24/25 09:28
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 13:23
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 13:23
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 23:18
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 23:18
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 11:10

Client Sample ID: SW02
Lab Sample ID: 880-66499-9
Date Collected: 12/24/25 09:32
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 13:44
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 13:44
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 23:33
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 23:33
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 11:19

Client Sample ID: SW03
Lab Sample ID: 880-66499-10
Date Collected: 12/24/25 09:34
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 14:04
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 14:04
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 23:47
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/04/26 23:47
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 11:26

Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW05
Lab Sample ID: 880-66499-11
Date Collected: 12/24/25 09:36
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 15:55
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 15:55
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/05/26 00:02
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/05/26 00:02
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 11:33

Client Sample ID: SW07
Lab Sample ID: 880-66499-12
Date Collected: 12/24/25 09:40
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 16:15
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 16:15
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/05/26 00:17
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/05/26 00:17
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 11:54

Client Sample ID: SW08
Lab Sample ID: 880-66499-13
Date Collected: 12/24/25 09:42
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 16:35
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 16:35
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/05/26 00:32
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/05/26 00:32
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 12:01

Client Sample ID: SW09
Lab Sample ID: 880-66499-14
Date Collected: 12/24/25 09:44
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 16:56
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 16:56

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Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: SW09
Lab Sample ID: 880-66499-14
Date Collected: 12/24/25 09:44
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/05/26 00:46
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/05/26 00:46
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 12:21

Client Sample ID: SW10
Lab Sample ID: 880-66499-15
Date Collected: 12/24/25 09:46
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 17:16
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 17:16
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/05/26 01:01
Total/NA	Prep	8015NM Prep			127703	EL	EET MID	12/26/25 10:28
Total/NA	Analysis	8015B NM		1	128146	FC	EET MID	01/05/26 01:01
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 12:28

Client Sample ID: SW11
Lab Sample ID: 880-66499-16
Date Collected: 12/24/25 09:48
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 17:37
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 17:37
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 19:36
Total/NA	Prep	8015NM Prep			127716	EL	EET MID	12/26/25 10:57
Total/NA	Analysis	8015B NM		1	128148	FC	EET MID	01/04/26 19:36
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 12:35

Client Sample ID: FS15
Lab Sample ID: 880-66499-17
Date Collected: 12/24/25 09:24
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			127936	AA	EET MID	12/30/25 11:12
Total/NA	Analysis	8021B		1	127956	SA	EET MID	01/01/26 17:57
Total/NA	Analysis	Total BTEX		1	128122	SA	EET MID	01/01/26 17:57
Total/NA	Analysis	8015 NM		1	128203	SA	EET MID	01/04/26 20:20
Total/NA	Prep	8015NM Prep			127716	EL	EET MID	12/26/25 10:57
Total/NA	Analysis	8015B NM		1	128148	FC	EET MID	01/04/26 20:20

Eurofins Midland

Lab Chronicle

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Client Sample ID: FS15
Lab Sample ID: 880-66499-17
Date Collected: 12/24/25 09:24
Matrix: Solid
Date Received: 12/26/25 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Soluble	Leach	DI Leach			127860	SA	EET MID	12/29/25 13:39
Soluble	Analysis	300.0		1	127904	CS	EET MID	12/30/25 12:42

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

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	06-30-26

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 Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

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
Job ID: 880-66499-1
Project/Site: Empire Abo Unit 291

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-66499-1	FS09	Solid	12/24/25 09:14	12/26/25 09:50	6'
880-66499-2	FS10	Solid	12/24/25 09:16	12/26/25 09:50	14'
880-66499-3	FS11	Solid	12/24/25 09:18	12/26/25 09:50	14'
880-66499-4	FS12	Solid	12/24/25 09:20	12/26/25 09:50	14'
880-66499-5	FS14	Solid	12/24/25 09:22	12/26/25 09:50	6'
880-66499-6	FS16	Solid	12/24/25 09:24	12/26/25 09:50	6'
880-66499-7	FS17	Solid	12/24/25 09:26	12/26/25 09:50	12'
880-66499-8	SW01	Solid	12/24/25 09:28	12/26/25 09:50	0-4'
880-66499-9	SW02	Solid	12/24/25 09:32	12/26/25 09:50	0-4'
880-66499-10	SW03	Solid	12/24/25 09:34	12/26/25 09:50	0-5'
880-66499-11	SW05	Solid	12/24/25 09:36	12/26/25 09:50	0-5'
880-66499-12	SW07	Solid	12/24/25 09:40	12/26/25 09:50	0-4'
880-66499-13	SW08	Solid	12/24/25 09:42	12/26/25 09:50	0-12'
880-66499-14	SW09	Solid	12/24/25 09:44	12/26/25 09:50	0-6'
880-66499-15	SW10	Solid	12/24/25 09:46	12/26/25 09:50	0-6'
880-66499-16	SW11	Solid	12/24/25 09:48	12/26/25 09:50	0-4'
880-66499-17	FS15	Solid	12/24/25 09:24	12/26/25 09:50	6'

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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

880-66499 Chain of Custody

Project Manager:	Kara Naegeli	Bill to: (if different)	Hilcorp
Company Name:	Ensolum, LLC	Company Name:	Billy Ginn
Address:	601 N Marienfeld St Ste 400	Address:	1111 Travis Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Houston, TX 77002
Phone:	(512) 709-2473	Email:	Kjenning@ensolum/knaegeli@ensolum

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:	Empire Abo Unit 29I	Turn Around	☐ Routine ☐ Rush
Project Number:	07A1988314	Due Date:	
Project Location:	Eddy County	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Tabitha Guadian		
PO #:	07A1988314		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TX4
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-.1
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.1
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	Chloride 300	Sample Comments
FS09	S	12/24/25	0914	6'	C	1		X	X	X	
FS10			0916	14'							
FS11			0918	14'							
FS12			0920	14'							
FS14			0922	6'							
FS16			0924	6'							
FS17			0926	12'							
SW01			0928	~~0-4'~~							
SW02			0932	0-4'							
SW03			0934	0-5							

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			2		
3			4		
5					

12.26.25

12/24/25 0950

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 _____ of _____

Project Manager:	Kara Naegeli	Bill to: (if different)	Hilcorp
Company Name:	Ensolum, LLC	Company Name:	Billy Ginn
Address:	601 N Marienfeld St Ste 400	Address:	1111 Travis Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Houston, TX 77002
Phone:	(512) 709-2473	Email:	kginning@ensolum.com/knaegeli@ensolum

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:	Empire Abo Unit 291	Turn Around	☐ Routine ☐ Rush
Project Number:	07A1988314	Due Date:	
Project Location:	Eddy County	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Tabitha Gradian		
PO #:	07A1988314		

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_2SO_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	BTEX 8021	TPH 8015	Chloride 300	Sample Comments
SW05	S	12/24/25	0936	0-5'	C	1		X	X	X	
SW07			0940	0-4'							
SW08			0942	0-12'							
SW09			0944	0-6'							
SW10			0946	0-6'							
SW11			0948	0-4							
FS15	S	12/24/25	0924	6'	C	1		X	X	X	

NFE 12/24/25 TNS

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			2		
3	12.26.25		4		12/26/25 990
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

880-66499 Chain of Custody

Project Manager:	Kara Naegeli	Bill to: (if different)	Hilcorp
Company Name:	Ensolum, LLC	Company Name:	Billy Ginn
Address:	601 N Marienfeld St Ste 400	Address:	1111 Travis Street
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Houston, TX 77002
Phone:	(512) 709-2473	Email:	Kjenning@ensolum/knaegeli@ensolum

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:	Empire Abo Unit 291	Turn Around	
Project Number:	07A1988314	☐ Routine ☐ Rush	
Project Location:	Eddy County	Due Date:	
Sampler's Name:	Tabitha Guadian	TAT starts the day received by the lab, if received by 4:30pm	
PO #:	07A1988314		

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	224
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-.1
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.1
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: NaSO$_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: BTEX 8021	TPH 8015	Chloride 300	Sample Comments
FS09	S	12/24/25	0914	6'	C	1		X	X	X	
FS10			0916	14'							
FS11			0918	14'							
FS12			0920	14'							
FS14			0922	6'							
FS16			0924	6'							
FS17			0926	12'							
SW01			0928	~~0-4'~~ 0-4'							
SW02			0932	0-4'							
SW03			0934	0-4'							

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			2		12/26/25 0950
3			4		
5	12.26.25		6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum Job Number: 880-66499-1

Login Number: 66499 **List Source: Eurofins Midland**
List Number: 1
Creator: Vasquez, Julisa

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

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS

Action 557046

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2526548140**
Incident Name	**NAPP2526548140 EMPIRE ABO UNIT 291 @ 30-015-21541**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-21541] EMPIRE ABO UNIT #291**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	EMPIRE ABO UNIT 291
Date Release Discovered	09/18/2025
Surface Owner	Private

Incident Details	
Please answer all the questions in this group.	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Pipeline (Any) | Produced Water | Released: 10 BBL | Recovered: 1 BBL | Lost: 9 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	*Not answered.*

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**No**
Reasons why this would be considered a submission for a notification of a major release	*Unavailable.*
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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.

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 02/24/2026

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 75 and 100 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 300 and 500 (ft.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between ½ and 1 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 300 and 500 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Between 300 and 500 (ft.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan		
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.		
Requesting a remediation plan approval with this submission		Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.		
Have the lateral and vertical extents of contamination been fully delineated		Yes
Was this release entirely contained within a lined containment area		No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)		
Chloride	(EPA 300.0 or SM4500 Cl B)	13600
TPH (GRO+DRO+MRO)	(EPA SW-846 Method 8015M)	2670
GRO+DRO	(EPA SW-846 Method 8015M)	88.3
BTEX	(EPA SW-846 Method 8021B or 8260B)	0
Benzene	(EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.		
On what estimated date will the remediation commence		12/09/2025
On what date will (or did) the final sampling or liner inspection occur		01/08/2026
On what date will (or was) the remediation complete(d)		01/08/2026
What is the estimated surface area (in square feet) that will be reclaimed		3363
What is the estimated volume (in cubic yards) that will be reclaimed		2100
What is the estimated surface area (in square feet) that will be remediated		3363
What is the estimated volume (in cubic yards) that will be remediated		2100
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.		
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.		

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	fEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
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.	
I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 02/24/2026
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**535456**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**12/24/2025**
What was the (estimated) number of samples that were to be gathered	**10**
What was the sampling surface area in square feet	**3800**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	3363
What was the total volume (cubic yards) remediated	2100
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	3363
What was the total volume (in cubic yards) reclaimed	2100
Summarize any additional remediation activities not included by answers (above)	Site assessment, soil sampling, and excavation activities were conducted at the Site to assess the release of produced water on September 18, 2025. Laboratory analytical results for all final soil samples collected within and around the release extent indicated that all COC concentrations were compliant with the Site Closure Criteria after excavation. Based on laboratory analytical results, no further remediation is required at this time. Hilcorp will backfill the excavation with material sourced locally and recontour the Site to match pre-existing site conditions. Excavation of impacted soil has mitigated impacts at this Site, and these remedial actions have been protective of human health, the environment, and groundwater. As such, Hilcorp respectfully requests closure Incident Number nAPP2526548140.

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 (in .pdf format) 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.

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.

I hereby agree and sign off to the above statement	Name: Stuart Hyde Title: Senior Geologist Email: shyde@ensolum.com Date: 02/24/2026

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QUESTIONS (continued)

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 557046

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 557046
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Remediation closure is approved.	3/2/2026
michael.buchanan	The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. The OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan.	3/2/2026
michael.buchanan	A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	3/2/2026
michael.buchanan	All revegetation activities will need to be documented and included in the revegetation report. The revegetation report will need to include: An executive summary of the revegetation activities including: Seed mix, Method of seeding, dates of when the release area was reseeded, information pertinent to inspections, information about any amendments added to the soil, information on how the vegetative cover established meets the life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds per 19.15.29.13 D.(3) NMAC, and any additional information; a scaled Site Map including area that was revegetated in square feet; and pictures of the revegetated areas during reseeding activities, inspections, and final pictures when revegetation is achieved.	3/2/2026
michael.buchanan	A revegetation report will not be accepted until revegetation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable.	3/2/2026
michael.buchanan	Per 19.15.29.13 E. NMAC, if a reclamation and revegetation report has been submitted to the surface owner, it may be used if the requirements of the surface owner provide equal or better protection of freshwater, human health, and the environment. A copy of the approval of the reclamation and revegetation report from the surface owner and a copy of the approved reclamation and revegetation report will need to be submitted to the OCD via the Permitting website.	3/2/2026