ENSOLUM

March 5, 2024

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Remediation Work Plan
PLU 17 Twin Wells Ranch 122H
Incident Number NAPP2334152485
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan (Work Plan)* to document assessment and delineation activities completed to date and proposes remedial actions to address impacted soil identified at the PLU 17 Twin Wells Ranch 122H (Site). The purpose of the Site assessment and delineation activities was to determine the presence or absence of impacted soil resulting from a release of crude oil and produced water at the Site. The following *Work Plan* proposes to excavate impacted soil and requests a Closure Criteria variance.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 20, Township 24 South, Range 31 East, in Eddy County, New Mexico (32.20863°, -103.80592°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On December 6, 2023, a buried flowline was struck during mechanical excavation, resulting in the release of 5.53 barrels (bbls) of crude oil and 25.19 bbls of produced water onto the surface of the well pad and into the adjacent pasture. A vacuum truck was dispatched to the Site to recover free standing fluids, and approximately 25.0 bbls of released fluids were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email and submitted a Release Notification Form C-141 (Form C-141) on December 12, 2023. The release was assigned Incident Number NAPP2334152485.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. In August 2023, a soil boring permitted by New Mexico Office of the State Engineer (NMOSE file number C-04759) was completed approximately 0.66 miles west of the Site utilizing air rotary drilling methods. Soil boring C-04759 was drilled to a depth of 110 feet bgs. While installing the temporary well, the bottom of the borehole collapsed to a depth of 107 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The temporary well was left open

for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 107 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Log is included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a freshwater emergent wetland, located approximately 4,042 feet north of the Site. The Site is greater than 200 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 to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). 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 total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

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

SITE ASSESSMENT AND DELINEATION SOIL SAMPLING ACTIVITIES

On January 4, 2024, Ensolum personnel conducted a Site assessment to evaluate the release extent based on information provided on the Form C-141, information provided by XTO, and visual observations. The release extent area was mapped utilizing a handheld Global Positioning System (GPS) unit and is depicted on Figure 2. During the Site assessment, Ensolum observed the excavation from replacing the line strike was still open but safely fenced off. XTO drilling operations were also present on the Site well pad. A Photographic Log of the excavated area and Site conditions is included in Appendix B.

On January 17 and 18, 2024, Ensolum returned to the Site to oversee delineation activities. Five potholes (PH01 through PH05) were advanced by a hand auger to investigate the vertical extent of the release. The potholes were advanced to auger refusal which included depths ranging from 3 feet to 4 feet bgs. Discrete soil samples were collected from each pothole at depths ranging from 0.5 feet to 4 feet bgs. Seven discrete soil samples (SS01 through SS07) were collected outside the release extent at a depth of 0.5 feet bgs to define the lateral extent of the release. All delineation 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 soil sample locations were mapped utilizing a handheld GPS unit and are depicted on Figure 2. A photographic log of delineation activities is included in Appendix B. Field screening results and observations for all potholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Soil samples delivered to the laboratory the same day they are collected may not have equilibrated to the 6 degrees Celsius required for shipment and long term storage but are considered by the laboratory to have been received in acceptable condition.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for delineation soil sample PH01, collected at 0.5 feet bgs, indicated the TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria and is the only sample collected indicating COC concentrations exceeding Closure Criteria. However, soil samples PH03 collected at 0.5 feet, and PH02A and PH03A collected at 3 feet bgs indicated TPH concentrations exceeded the reclamation requirement. Soil samples PH01, PH02, and PH02A indicated chloride concentrations exceeded the reclamation requirement. Laboratory analytical results for all other delineation soil samples collected indicated COC concentrations were in compliance with Closure Criteria and the reclamation requirement. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included in Appendix D.

PROPOSED REMEDIATION WORK PLAN

Site assessment and delineation activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from a release of crude oil and produced water. Based on laboratory analytical results, TPH and chloride impacted soil exists across an approximate 3,031 square-foot area within the release footprint at depths ranging from 0.5 feet bgs to an exceedance of 3 feet bgs. Due to auger refusal at 3 feet bgs in PH02 and PH03, vertical definition was not achieved in the pasture area under the reclamation requirement standards. While the vertical extent of the release is not fully established in the pasture area, it is established in all other potholes to Site Closure Criteria. The lateral extent of the release is defined through laboratory analytical results of soil samples SS01 through SS07.

XTO proposes to remove petroleum hydrocarbon and chloride impacted soil identified at the Site. The proposed excavation extent is depicted on Figure 3 and includes the previously excavated area from when the flowline was repaired. Following the removal of impacted soil, confirmation samples will be collected at a sampling frequency of every 200 square feet along the floors and sidewalls of the final excavation extent and within the northern half of the release footprint on the surface of the well pad where potholes PH04 and PH05 exist. Based on laboratory analytical results from PH02A and PH03A at 3 feet bgs, where auger refusal was encountered, Ensolum anticipates the excavation to extend to a depth of at least 4 feet bgs in these areas and in doing so, achieve full definition in the pasture area through the collection of floor and sidewall confirmation soil samples. The soil samples will be handled and analyzed for COCs as described above and submitted to Eurofins for laboratory analysis. An estimated 450 cubic yards of impacted soil will be removed. The excavated soil will be transferred to a New Mexico approved landfill facility for disposal. The excavation will be backfilled and recontoured to match pre-existing Site conditions and the pasture area will be reseeded with a BLM-approved seed mixture.

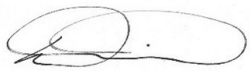
Based on the lack of sensitive receptors at the Site, the Site being underlain by low potential karst designation area, and nearby depth to groundwater data estimating regional depth to groundwater to be greater than 100 feet bgs on both sides of the Site, XTO is requesting a Closure Criteria variance for the

distance of the nearest depth to groundwater data exceeding a distance of 0.5 miles from the Site. The nearest depth to groundwater data includes the above-mentioned soil boring C-04759 that exceeds 107 feet bgs and is located 0.66 miles west of the Site, and soil boring C-04499 that exceeds 110 feet bgs and is located 0.79 miles east of the Site. Both soil borings are the most recent dated depth to groundwater data in the region as C-04759 was drilled in August 2023, and C-04499 was drilled December 2020. The next nearest depth to groundwater well is United States Geological Survey (USGS) well 321310103482101 located 0.83 miles north of the Site and has a recorded depth to water of 74.44 feet bgs. However, the last recorded depth to groundwater reading was in January 2013, the well is listed as an "Inactive Site" on the USGS National Water Information System Mapper, which could potentially mean the well is dry, and previous depth to groundwater measurements indicate an increasing groundwater depth with age. The closest groundwater well data has reasonably estimated the Site's depth to groundwater and therefore is equally protective of the public, the environment, and groundwater. Based on the above-mentioned findings, XTO requests a Closure Criteria variance for regional depth to groundwater at the Site to be greater than 100 feet bgs. All Well Logs used for the depth to groundwater investigation are included in Appendix A.

XTO believes this *Work Plan* is protective of human health, the environment, and groundwater. As such, XTO requests approval of this *Work Plan* by NMOCD. XTO will complete the excavation and soil sampling activities within 90 days of the date of approval of this *Work Plan* by the NMOCD or within 90 days of when XTO production operations is discharged from the Site, whichever comes first. If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Benjamin J. Belill
Senior Geologist



Daniel Moir, PG
Senior Managing Geologist

cc: Amy Ruth, XTO
Tommee Lambert, XTO
BLM

Appendices:

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

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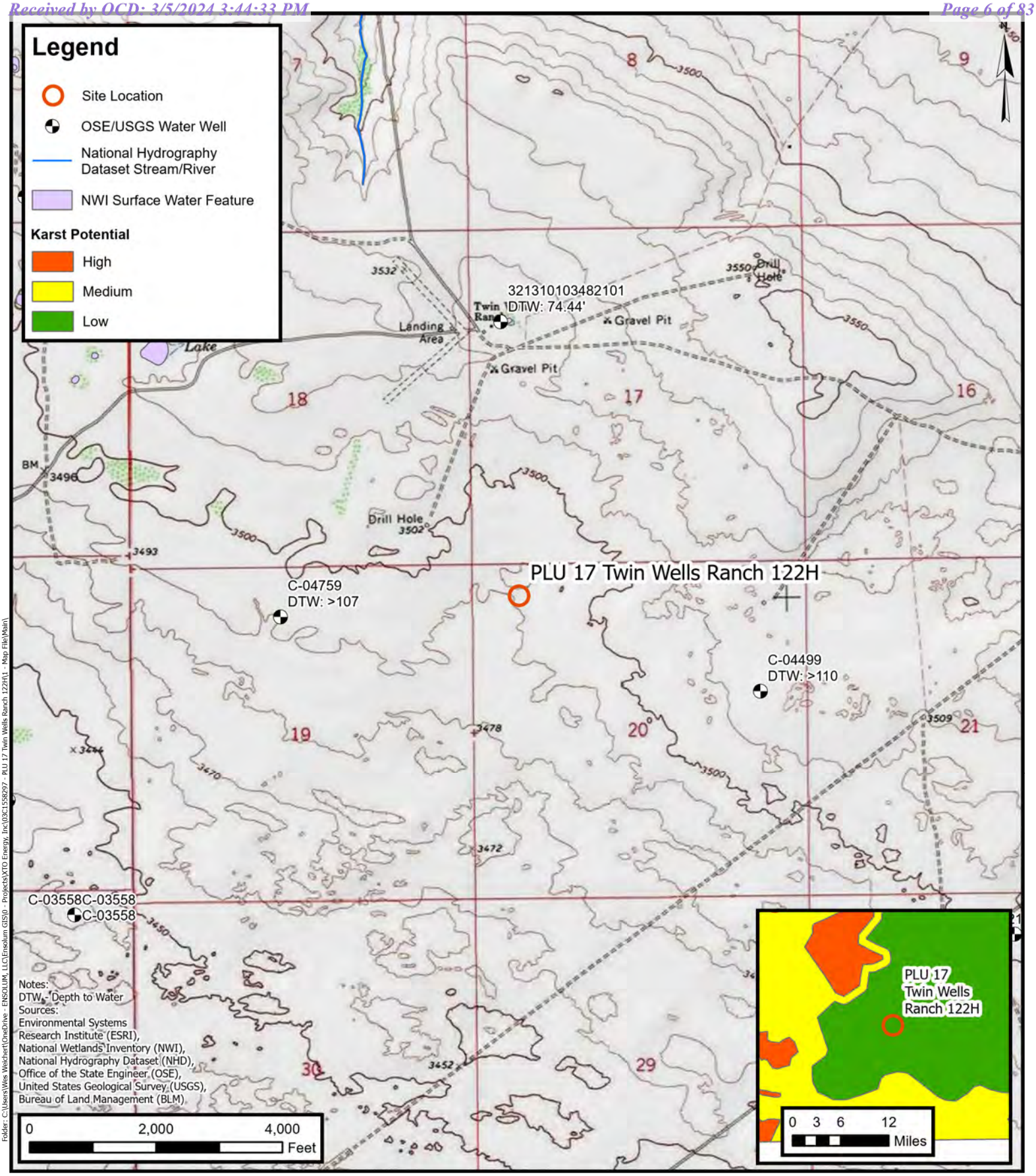
FIGURES



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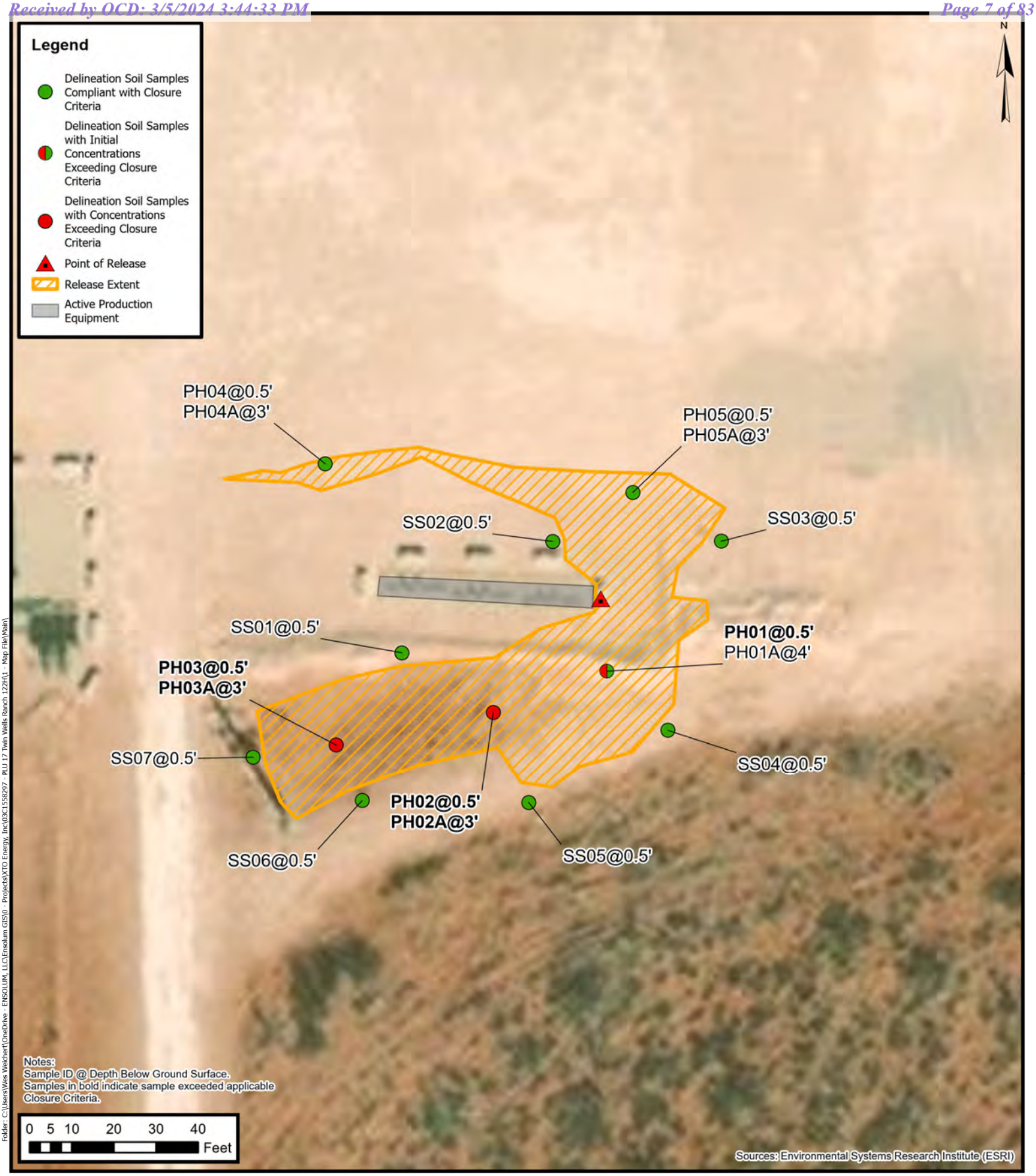
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 17 Twin Wells Ranch 122H
Incident Number: NAPP2334152485
Unit D, Sec 20, T24S, R31E
Eddy Co, New Mexico, United States

FIGURE 1



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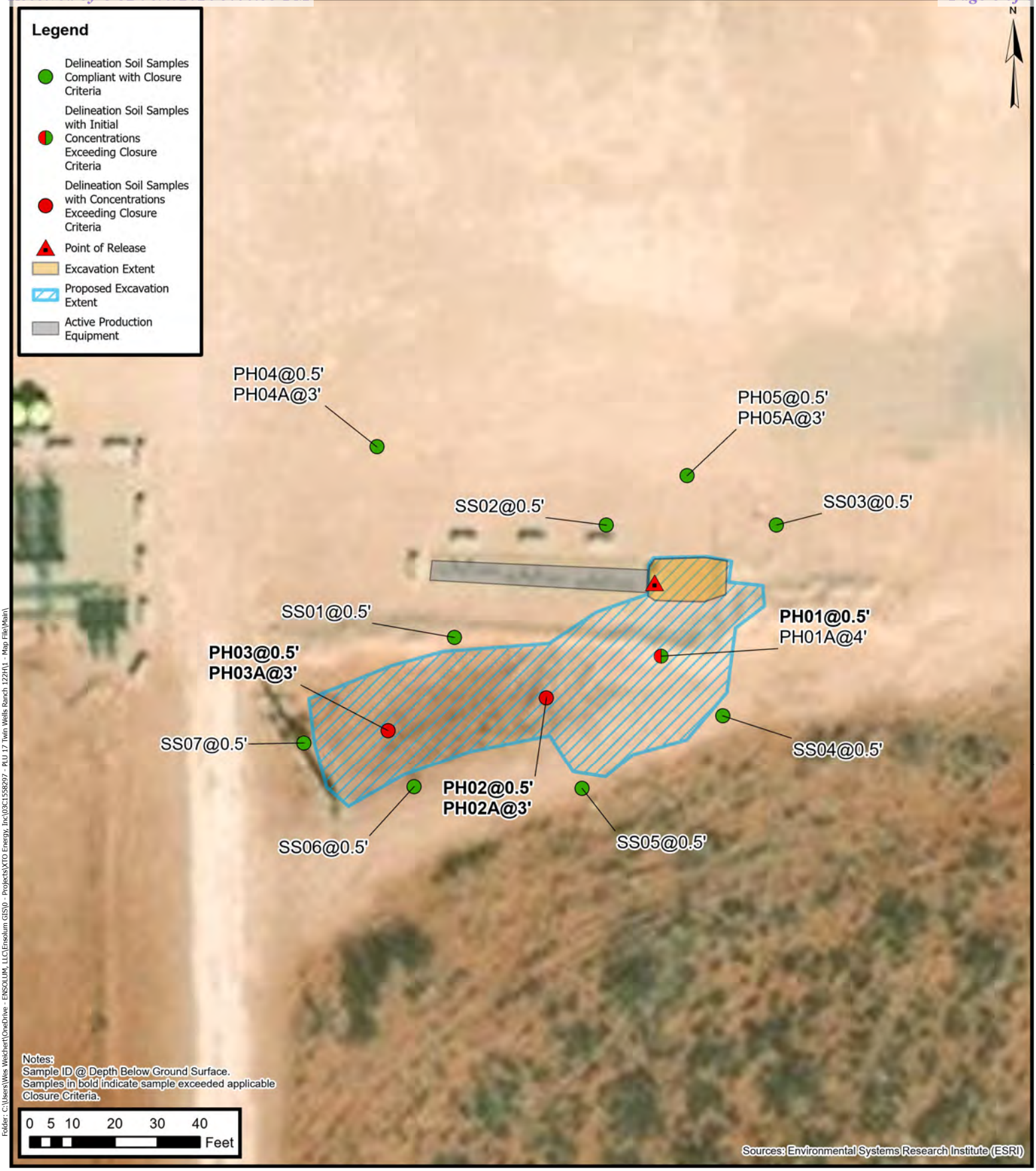
Delineation Soil Sample Locations

XTO Energy, Inc
PLU 17 Twin Wells Ranch 122H
Incident Number: NAPP2334152485
Unit D, Sec 20, T24S, R31E
Eddy Co, New Mexico, United States

FIGURE 2



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Proposed Excavation Extent

XTO Energy, Inc
PLU 17 Twin Wells Ranch 122H
Incident Number: NAPP2334152485
Unit D, Sec 20, T24S, R31E
Eddy Co, New Mexico, United States

FIGURE 3

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 17 Twin Wells Ranch 122H
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
SS01	01/18/2024	0.5	<0.00200	<0.00401	<50.2	<50.2	<50.2	<50.2	<50.2	11.8
SS02	01/18/2024	0.5	<0.00199	<0.00398	<50.4	<50.4	<50.4	<50.4	<50.4	11.0
SS03	01/18/2024	0.5	<0.00199	<0.00398	<50.5	<50.5	<50.5	<50.5	<50.5	10.2
SS04	01/18/2024	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	11.8
SS05	01/18/2024	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	11.2
SS06	01/18/2024	0.5	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	19.7
SS07	01/18/2024	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	26.7
PH01	01/17/2024	0.5	<0.00201	6.08	814	3,390	<50.2	**3,750**	**4,200**	**3,710**
PH01A	01/17/2024	4	<0.00199	0.0268	<50.4	358	<50.4	358	358	404
PH02	01/17/2024	0.5	<0.00199	0.00398	<50.5	88.4	<50.5	88.4	88.4	**1,720**
PH02A	01/17/2024	3	<0.00200	0.0309	<50.0	773	<50.0	**773**	**773**	**837**
PH03	01/17/2024	0.5	<0.00201	0.0140	<50.0	103	<50.0	**103**	**103**	535
PH03A	01/17/2024	3	<0.00200	<0.00401	<49.6	180	<49.6	**180**	**180**	159
PH04	01/18/2024	0.5	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	25.8
PH04A	01/18/2024	3	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	18.7
PH05	01/18/2024	0.5	<0.00200	<0.00399	<50.1	<50.1	<50.1	<50.1	<50.1	23.9
PH05A	01/18/2024	3	<0.00201	<0.00402	<50.3	<50.3	<50.3	<50.3	<50.3	14.8

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

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

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

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APPENDIX A

Referenced Well Records

ENSOLUM	Sample Name: C-4759 (BH01)	Date: 8/07/2023
	Site Name: PLU 18 TWR SAT BATTERY	
	Incident Number: nAPP2230551957	
	Job Number: 03C1558144	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: M. O'Dell	Method: Air Rotary Rig
Coordinates: 32.207892, -103.817942	Hole Diameter: N/A	Total Depth: 110'
Comments: No field screening or sampling was conducted at the site.		

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
						10	SP	0-10'. Sand w/ trace caliche. Reddish brown, very fine to fine grained, subrounded to subangular, poorly graded, dry.
						20	CCHE	10-40'.Caliche w/ sand. Light brown to tan, very fine to fine grained, subrounded to subangular, poorly graded, dry.
						30		
						40	SP	40-100'. Sand w/ trace caliche. Reddish brown, very fine to fine grained, subrounded to subangular grains, poorly graded, dry.
						50		50': Injecting/adding water & soap at 50'
						60		
						70		
						80		
						90		
						100	SP/SC	100-110'. Clayey sand, reddish orange very fine to fine grained, poorly graded, dry.
						110		110': stopped drilling and set casing at 110'.

TD @ 110' bgs.

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (MW-1)	n/a	C-4499

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Dr.	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	12'	15.89"	N
	LONGITUDE	-103°	47'	36.29"	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

SE NE Sec. 20 T24S R31E

2. DRILLING & CASING INFORMATION

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

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
12/30/2020	12/30/2020	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

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

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

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

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO. C-4499	POD NO. 1	TRN NO. 682532	
LOCATION 24S.31E.20.243		WELL TAG ID NO. —	PAGE 1 OF 2

OSE DII JAN 27 2021 PM3:34

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	6	6	SAND, well graded, fine-to-large grain particles red-brown, dry	~~Y~~ ✓ N	
6	8	2	SAND, poorly graded, fine grained little clay mod. plasitcity, red-brown, moist	Y ✓ N	
8	11	3	CALICHE, mod. consolidated, some sand, medium /fine grain, white-tan, dry	Y ✓ N	
11	46	35	CALICHE, mod. consolidated, some sand, medium to fine grain, white-tan, dry.	Y ✓ N	
46	74	28	SAND, well-graded, medium grain,caliche gravel (1-4mm), light brown, dry.	Y ✓ N	
74	110	36	SAND, well-graded, fine/large grain, few clay, cohesive, red-brown, dry	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

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

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

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

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

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

Shane Eldridge

6. SIGNATURE

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

Jack Atkins — Jackie D. Atkins — 01/15/2021

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

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

FILE NO. C-4499	POD NO. 1	TRN NO. 682532
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2

OSE DIT JAN 27 2021 PM3:34

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 321310103482101

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

USGS 321310103482101 24S.31E.17.13120

Eddy County, New Mexico
Latitude 32°13'14.1", Longitude 103°48'23.4" NAD83
Land-surface elevation 3,530.00 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1959-02-03		D	62610		3459.50	NGVD29	P	Z		
1959-02-03		D	62611		3461.24	NAVD88	P	Z		
1959-02-03		D	72019	70.50			P	Z		
1959-03-25		D	62610		3462.33	NGVD29	1	Z		
1959-03-25		D	62611		3464.07	NAVD88	1	Z		
1959-03-25		D	72019	67.67			1	Z		
1976-12-02		D	62610		3463.98	NGVD29	1	Z		
1976-12-02		D	62611		3465.72	NAVD88	1	Z		
1976-12-02		D	72019	66.02			1	Z		
2013-01-17	21:00 UTC	m	62610		3455.56	NGVD29	1	S	USGS	
2013-01-17	21:00 UTC	m	62611		3457.30	NAVD88	1	S	USGS	
2013-01-17	21:00 UTC	m	72019	74.44			1	S	USGS	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day

Section	Code	Description
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	P	Pumping
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy Inc.
PLU 17 Twin Wells Ranch 122H
Incident Number NAPP2334152485

Photograph: 1 Date: 1/4/2024
Description: Site conditions during site assessment.
View: West

Photograph: 2 Date: 1/17/2024
Description: Delineation activities, PH02.
View: Northeast

Photograph: 3 Date: 1/18/2024
Description: Delineation activities, PH04.
View: East

Photograph: 4 Date: 1/18/2024
Description: Release extent in pasture area.
View: East

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 1/17/2024
	Site Name: PLU 17 Twin Wells Ranch 122H	
	Incident Number: NAPP2334152485	
	Job Number: 03C1558297	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates: 32.208571, -103.805945	Hole Diameter: 3.5"	Total Depth: 4' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP	SAND, reddish brown, very fine grained, trace silt, some caliche flakes, no stain, strong H/C odor.
M	4,435	453	N	PH01	0.5			
M	274	137	N			1		
M	<168	12.0	N			2		
M	<168	29.0	N			3		
D	274	60.0	N	PH01A	4	4	CCHE	CALICHE, white, well consolidated, with very fine, red sand, some silt, no stain and slight H/C odor.

Total Depth @ 4 feet bgs. (Auger Refusal)

ENSOLUM

Sample Name: PH02	Date: 1/17/2024	
Site Name: PLU 17 Twin Wells Ranch 122H		
Incident Number: NAPP2334152485		
Job Number: 03C1558297		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates: 32.208544, -103.806032	Hole Diameter: 3.5"	Total Depth: 3' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP	SAND, reddish brown, very fine grained, trace silt, some caliche flakes, no stain, strong H/C odor.
M	2,144	105	Y	PH02	0.5			
M	1,870	132	N			1		
M	235	17.4	N			2		
D	470	35.8	N	PH02A	3	3	CCHE	CALICHE, white, well consolidated, with very fine, red sand, some silt, no stain and slight H/C odor.

Total Depth @ 3 feet bgs. (Auger Refusal)

ENSOLUM

Sample Name: PH03	Date: 1/17/2024	
Site Name: PLU 17 Twin Wells Ranch 122H		
Incident Number: NAPP2334152485		
Job Number: 03C1558297		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates: 32.208526, -103.806153	Hole Diameter: 3.5"	Total Depth: 3' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SP	SAND, reddish brown, very fine grained, trace silt, some caliche flakes, no stain, trace H/C odor.
M	638	4.3	N	PH03	0.5			
M	414	1.9	N			1		@1', no odor.
M	201	1.2	N			2		
D	168	2.7	N	PH03A	3	3	CCHE	CALICHE, white, well consolidated, with very fine, red sand, some silt, no stain and no odor.

Total Depth @ 3 feet bgs. (Auger Refusal)

ENSOLUM

Sample Name: PH04	Date: 1/18/2024	
Site Name: PLU 17 Twin Wells Ranch 122H		
Incident Number: NAPP2334152485		
Job Number: 03C1558297		
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates: 32.208708, -103.806159	Hole Diameter: 3.5"	Total Depth: 3' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE (fill)	CALICHE, dry, off white-tan, well compacted fill, no stain, no odor.
D	<168	0.3	N	PH04	0.5			
D	<168	0.7	N			1	SP	SAND, reddish brown, very fine grained, trace silt, some caliche flakes, no stain, no odor.
D	<168	0.8	N			2		
D	<168	0.0	N	PH04A	3	3	CCHE	CALICHE, white, well consolidated, with very fine, red sand, some silt, no stain and no odor.

Total Depth @ 3 feet bgs. (Auger Refusal)

ENSOLUM

	Sample Name: PH05	Date: 1/18/2024
	Site Name: PLU 17 Twin Wells Ranch 122H	
	Incident Number: NAPP2334152485	
	Job Number: 03C1558297	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Connor Whitman	Method: Hand auger
Coordinates: 32.208688, -103.805924	Hole Diameter: 3.5"	Total Depth: 3' bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE (fill)	CALICHE, dry, off white-tan, well compacted fill, no stain, no odor.
D	<168	0.2	N	PH05	0.5			
D	<168	0.2	N			1	SP	SAND, reddish brown, very fine grained, trace silt, some caliche flakes, no stain, no odor.
D	<168	0.3	N			2		
D	<168	0.0	N	PH05A	3	3	CCHE	CALICHE, white, well consolidated, with very fine, red sand, some silt, no stain and no odor.

Total Depth @ 3 feet bgs. (Auger Refusal)

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Ben Belill
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 1/31/2024 12:54:22 PM

JOB DESCRIPTION

PLU 17 TWIN WELLS RANCH 122H
03C1558297

JOB NUMBER

890-5988-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

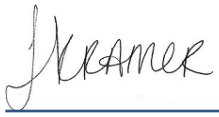
Eurofins Carlsbad

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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1/31/2024 12:54:22 PM

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

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Laboratory Job ID: 890-5988-1
SDG: 03C1558297

Table of Contents

Eurofins Carlsbad
1/31/2024

Definitions/Glossary

Client: Ensolum Job ID: 890-5988-1
Project/Site: PLU 17 TWIN WELLS RANCH 122H SDG: 03C1558297

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Definitions/Glossary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum Job ID: 890-5988-1
Project: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1 Eurofins Carlsbad

Job Narrative
890-5988-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 1/18/2024 12:56 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

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH 01 (890-5988-1), PH 01A (890-5988-2), PH 02 (890-5988-3), PH 02A (890-5988-4), PH 03 (890-5988-5), PH 03A (890-5988-6), PH 04 (890-5988-7), PH 04A (890-5988-8), PH 05 (890-5988-9), PH 05A (890-5988-10), SS 01 (890-5988-11), SS 02 (890-5988-12), SS 03 (890-5988-13), SS 04 (890-5988-14), SS 05 (890-5988-15), SS 06 (890-5988-16) and SS 07 (890-5988-17).

GC VOA
Method 8021B: The matrix spike (MS) and/or matrix spike duplicate (MSD) recovery for preparation batch 880-71633 and analytical batch 880-71772 was outside control limits for the following analyte(s): Benzene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. Results may be biased high because this analyte is a common laboratory solvent and contaminant.

Method 8021B: Surrogate recovery for the following samples were outside control limits: PH 01 (890-5988-1), SS 05 (890-5988-15), (890-5988-A-1-E MS) and (890-5988-A-1-F MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-71633 and analytical batch 880-71772 was outside the control limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-71786 and analytical batch 880-71848 was outside the upper control limits.

Method 8021B: The laboratory control sample duplicate (LCSD) for preparation batch 880-71633 and analytical batch 880-71772 recovered outside control limits for the following analytes: m-Xylene & p-Xylene. Since only an acceptable LCS is required per the method, the data has been qualified and reported.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-71639 and analytical batch 880-71951 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-71254/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH 01 (890-5988-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-71254 and analytical batch 880-71766 was outside control limits. Sample non-homogeneity is suspected.

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

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Case Narrative

Client: Ensolum Job ID: 890-5988-1
Project: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1 (Continued) Eurofins Carlsbad

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-71230 and analytical batch 880-71386 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.

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 01

Date Collected: 01/17/24 11:00
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U F1	0.00201		mg/Kg		01/25/24 18:00	01/29/24 22:43	1
Toluene	**0.0262**	**F1**	0.00201		mg/Kg		01/25/24 18:00	01/29/24 22:43	1
Ethylbenzene	**0.259**	**F2 F1**	0.00201		mg/Kg		01/25/24 18:00	01/29/24 22:43	1
m-Xylene & p-Xylene	**3.84**		0.100		mg/Kg		01/25/24 18:06	01/31/24 09:53	25
o-Xylene	**1.95**		0.0501		mg/Kg		01/25/24 18:06	01/31/24 09:53	25
Xylenes, Total	**5.79**		0.100		mg/Kg		01/25/24 18:06	01/31/24 09:53	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*339*	*S1+*	*70 - 130*	*01/25/24 18:00*	*01/29/24 22:43*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*01/25/24 18:00*	*01/29/24 22:43*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**6.08**		0.100		mg/Kg			01/31/24 09:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**4200**		50.2		mg/Kg			01/29/24 15:10	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	**814**		50.2		mg/Kg		01/19/24 17:22	01/29/24 15:10	1
Diesel Range Organics (Over C10-C28)	**3390**		50.2		mg/Kg		01/19/24 17:22	01/29/24 15:10	1
Oll Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		01/19/24 17:22	01/29/24 15:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*132*	*S1+*	*70 - 130*	*01/19/24 17:22*	*01/29/24 15:10*	*1*
o-Terphenyl	*82*		*70 - 130*	*01/19/24 17:22*	*01/29/24 15:10*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3710**	**F1**	25.0		mg/Kg			01/24/24 11:55	5

Client Sample ID: PH 01A

Date Collected: 01/17/24 11:30
Date Received: 01/18/24 12:56
Sample Depth: 4'

Lab Sample ID: 890-5988-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:03	1
m-Xylene & p-Xylene	**0.0216**	***+**	0.00398		mg/Kg		01/25/24 18:00	01/29/24 23:03	1
o-Xylene	**0.00521**		0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:03	1
Xylenes, Total	**0.0268**	***+**	0.00398		mg/Kg		01/25/24 18:00	01/29/24 23:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*128*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:03*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 01A

Date Collected: 01/17/24 11:30
Date Received: 01/18/24 12:56
Sample Depth: 4'

Lab Sample ID: 890-5988-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0268**		0.00398		mg/Kg			01/29/24 23:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**358**		50.4		mg/Kg			01/29/24 15:32	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	<50.4	U	50.4		mg/Kg		01/19/24 17:22	01/29/24 15:32	1
Diesel Range Organics (Over C10-C28)	**358**		50.4		mg/Kg		01/19/24 17:22	01/29/24 15:32	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4		mg/Kg		01/19/24 17:22	01/29/24 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*113*		*70 - 130*	*01/19/24 17:22*	*01/29/24 15:32*	*1*
o-Terphenyl	*88*		*70 - 130*	*01/19/24 17:22*	*01/29/24 15:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**404**		4.99		mg/Kg			01/24/24 07:13	1

Client Sample ID: PH 02

Date Collected: 01/17/24 11:50
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:24	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:24	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:24	1
m-Xylene & p-Xylene	**0.00398**	***+**	0.00398		mg/Kg		01/25/24 18:00	01/29/24 23:24	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/29/24 23:24	1
Xylenes, Total	**0.00398**	***+**	0.00398		mg/Kg		01/25/24 18:00	01/29/24 23:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:24*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:24*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.00398**		0.00398		mg/Kg			01/29/24 23:24	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**88.4**		50.5		mg/Kg			01/29/24 15:54	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 02

Lab Sample ID: 890-5988-3
Matrix: Solid
Date Collected: 01/17/24 11:50
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		01/19/24 17:22	01/29/24 15:54	1
Diesel Range Organics (Over C10-C28)	**88.4**		50.5		mg/Kg		01/19/24 17:22	01/29/24 15:54	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		01/19/24 17:22	01/29/24 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*01/19/24 17:22*	*01/29/24 15:54*	*1*
o-Terphenyl	*88*		*70 - 130*	*01/19/24 17:22*	*01/29/24 15:54*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1720**		24.8		mg/Kg			01/24/24 07:20	5

Client Sample ID: PH 02A

Lab Sample ID: 890-5988-4
Matrix: Solid
Date Collected: 01/17/24 12:10
Date Received: 01/18/24 12:56
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 23:44	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 23:44	1
Ethylbenzene	**0.00389**		0.00200		mg/Kg		01/25/24 18:00	01/29/24 23:44	1
m-Xylene & p-Xylene	**0.0214**	*+	0.00399		mg/Kg		01/25/24 18:00	01/29/24 23:44	1
o-Xylene	**0.00557**		0.00200		mg/Kg		01/25/24 18:00	01/29/24 23:44	1
Xylenes, Total	**0.0270**	*+	0.00399		mg/Kg		01/25/24 18:00	01/29/24 23:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:44*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*01/25/24 18:00*	*01/29/24 23:44*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0309**		0.00399		mg/Kg			01/29/24 23:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**773**		50.0		mg/Kg			01/29/24 16:14	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 16:14	1
Diesel Range Organics (Over C10-C28)	**773**		50.0		mg/Kg		01/19/24 17:22	01/29/24 16:14	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:14*	*1*
o-Terphenyl	*86*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:14*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 02A

Lab Sample ID: 890-5988-4
Matrix: Solid

Date Collected: 01/17/24 12:10
Date Received: 01/18/24 12:56
Sample Depth: 3'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**837**		5.02		mg/Kg			01/24/24 07:27	1

Client Sample ID: PH 03

Lab Sample ID: 890-5988-5
Matrix: Solid

Date Collected: 01/17/24 12:30
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 00:05	1
Toluene	**0.0111**		0.00201		mg/Kg		01/25/24 18:00	01/30/24 00:05	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 00:05	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 00:05	1
o-Xylene	**0.00294**		0.00201		mg/Kg		01/25/24 18:00	01/30/24 00:05	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 00:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:05*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:05*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0140**		0.00402		mg/Kg			01/30/24 00:05	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**103**		50.0		mg/Kg			01/29/24 16:36	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		01/19/24 17:22	01/29/24 16:36	1
Diesel Range Organics (Over C10-C28)	**103**		50.0		mg/Kg		01/19/24 17:22	01/29/24 16:36	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 16:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:36*	*1*
o-Terphenyl	*84*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:36*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**535**		5.04		mg/Kg			01/24/24 07:34	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 03A

Date Collected: 01/18/24 12:45
Date Received: 01/18/24 12:56
Sample Depth: 3'

Lab Sample ID: 890-5988-6

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 00:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 00:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 00:25	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401		mg/Kg		01/25/24 18:00	01/30/24 00:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 00:25	1
Xylenes, Total	<0.00401	U *+	0.00401		mg/Kg		01/25/24 18:00	01/30/24 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:25*	*1*
1,4-Difluorobenzene (Surr)	*77*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:25*	*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			01/30/24 00:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**180**		49.6		mg/Kg			01/29/24 16:57	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		01/19/24 17:22	01/29/24 16:57	1
Diesel Range Organics (Over C10-C28)	**180**		49.6		mg/Kg		01/19/24 17:22	01/29/24 16:57	1
OII Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		01/19/24 17:22	01/29/24 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:57*	*1*
o-Terphenyl	*86*		*70 - 130*	*01/19/24 17:22*	*01/29/24 16:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**159**		5.04		mg/Kg			01/24/24 07:55	1

Client Sample ID: PH 04

Date Collected: 01/18/24 09:15
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-7

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 00:45	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 00:45	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 00:45	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 00:45	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 00:45	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 00:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*76*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:45*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 04

Date Collected: 01/18/24 09:15
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-7
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*01/25/24 18:00*	*01/30/24 00:45*	*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			01/30/24 00:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7	mg/Kg			01/29/24 17:18	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	<49.7	U	49.7	mg/Kg		01/19/24 17:22	01/29/24 17:18	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7	mg/Kg		01/19/24 17:22	01/29/24 17:18	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7	mg/Kg		01/19/24 17:22	01/29/24 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*01/19/24 17:22*	*01/29/24 17:18*	*1*
o-Terphenyl	*82*		*70 - 130*	*01/19/24 17:22*	*01/29/24 17:18*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**25.8**		5.03	mg/Kg			01/24/24 08:02	1

Client Sample ID: PH 04A

Date Collected: 01/18/24 09:30
Date Received: 01/18/24 12:56
Sample Depth: 3'

Lab Sample ID: 890-5988-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 01:06	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 01:06	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 01:06	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		01/25/24 18:00	01/30/24 01:06	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 01:06	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		01/25/24 18:00	01/30/24 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:06*	*1*
1,4-Difluorobenzene (Surr)	*73*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:06*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			01/30/24 01:06	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			01/29/24 17:39	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 04A

Date Collected: 01/18/24 09:30
Date Received: 01/18/24 12:56
Sample Depth: 3'

Lab Sample ID: 890-5988-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		01/19/24 17:22	01/29/24 17:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		01/19/24 17:22	01/29/24 17:39	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		01/19/24 17:22	01/29/24 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*01/19/24 17:22*	*01/29/24 17:39*	*1*
o-Terphenyl	*96*		*70 - 130*	*01/19/24 17:22*	*01/29/24 17:39*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**18.7**		4.98		mg/Kg			01/22/24 20:38	1

Client Sample ID: PH 05

Date Collected: 01/18/24 09:50
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 01:26	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 01:26	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 01:26	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		01/25/24 18:00	01/30/24 01:26	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 01:26	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		01/25/24 18:00	01/30/24 01:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:26*	*1*
1,4-Difluorobenzene (Surr)	*71*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:26*	*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			01/30/24 01:26	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			01/29/24 18:00	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		01/19/24 17:22	01/29/24 18:00	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		01/19/24 17:22	01/29/24 18:00	1
OII Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		01/19/24 17:22	01/29/24 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*01/19/24 17:22*	*01/29/24 18:00*	*1*
o-Terphenyl	*84*		*70 - 130*	*01/19/24 17:22*	*01/29/24 18:00*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 05

Lab Sample ID: 890-5988-9
Matrix: Solid
Date Collected: 01/18/24 09:50
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.9		5.03		mg/Kg			01/22/24 20:54	1

Client Sample ID: PH 05A

Lab Sample ID: 890-5988-10
Matrix: Solid
Date Collected: 01/18/24 10:05
Date Received: 01/18/24 12:56
Sample Depth: 3'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 01:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 01:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 01:47	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 01:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 01:47	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 01:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:47*	*1*
1,4-Difluorobenzene (Surr)	*72*		*70 - 130*	*01/25/24 18:00*	*01/30/24 01:47*	*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			01/30/24 01:47	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.3	U	50.3		mg/Kg			01/29/24 18:22	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	<50.3	U	50.3		mg/Kg		01/19/24 17:22	01/29/24 18:22	1
Diesel Range Organics (Over C10-C28)	<50.3	U	50.3		mg/Kg		01/19/24 17:22	01/29/24 18:22	1
OII Range Organics (Over C28-C36)	<50.3	U	50.3		mg/Kg		01/19/24 17:22	01/29/24 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*01/19/24 17:22*	*01/29/24 18:22*	*1*
o-Terphenyl	*85*		*70 - 130*	*01/19/24 17:22*	*01/29/24 18:22*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14.8		4.96		mg/Kg			01/22/24 20:59	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 01

Lab Sample ID: 890-5988-11
Matrix: Solid
Date Collected: 01/18/24 11:00
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 03:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 03:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 03:09	1
m-Xylene & p-Xylene	<0.00401	U *+	0.00401		mg/Kg		01/25/24 18:00	01/30/24 03:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 03:09	1
Xylenes, Total	<0.00401	U *+	0.00401		mg/Kg		01/25/24 18:00	01/30/24 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*84*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:09*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/30/24 03:09	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.2	U	50.2		mg/Kg			01/23/24 01:46	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	<50.2	U	50.2		mg/Kg		01/19/24 17:25	01/23/24 01:46	1
Diesel Range Organics (Over C10-C28)	<50.2	U	50.2		mg/Kg		01/19/24 17:25	01/23/24 01:46	1
OII Range Organics (Over C28-C36)	<50.2	U	50.2		mg/Kg		01/19/24 17:25	01/23/24 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*01/19/24 17:25*	*01/23/24 01:46*	*1*
o-Terphenyl	*93*		*70 - 130*	*01/19/24 17:25*	*01/23/24 01:46*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.8**		5.05		mg/Kg			01/22/24 21:14	1

Client Sample ID: SS 02

Lab Sample ID: 890-5988-12
Matrix: Solid
Date Collected: 01/18/24 11:05
Date Received: 01/18/24 12:56
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		01/25/24 18:00	01/30/24 03:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 03:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 03:29	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 03:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 03:29	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 03:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:29*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 02

Date Collected: 01/18/24 11:05
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-12
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*75*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:29*	*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			01/30/24 03:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.4	U	50.4	mg/Kg			01/23/24 02:08	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	<50.4	U	50.4	mg/Kg		01/19/24 17:25	01/23/24 02:08	1
Diesel Range Organics (Over C10-C28)	<50.4	U	50.4	mg/Kg		01/19/24 17:25	01/23/24 02:08	1
OII Range Organics (Over C28-C36)	<50.4	U	50.4	mg/Kg		01/19/24 17:25	01/23/24 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*88*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:08*	*1*
o-Terphenyl	*86*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:08*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**11.0**		5.02	mg/Kg			01/22/24 21:19	1

Client Sample ID: SS 03

Date Collected: 01/18/24 11:10
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-13
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 03:50	1
Toluene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 03:50	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 03:50	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398	mg/Kg		01/25/24 18:00	01/30/24 03:50	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		01/25/24 18:00	01/30/24 03:50	1
Xylenes, Total	<0.00398	U *+	0.00398	mg/Kg		01/25/24 18:00	01/30/24 03:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:50*	*1*
1,4-Difluorobenzene (Surr)	*80*		*70 - 130*	*01/25/24 18:00*	*01/30/24 03:50*	*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			01/30/24 03:50	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			01/23/24 02:29	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 03

Lab Sample ID: 890-5988-13
Matrix: Solid
Date Collected: 01/18/24 11:10
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5		mg/Kg		01/19/24 17:25	01/23/24 02:29	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5		mg/Kg		01/19/24 17:25	01/23/24 02:29	1
OII Range Organics (Over C28-C36)	<50.5	U	50.5		mg/Kg		01/19/24 17:25	01/23/24 02:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:29*	*1*
o-Terphenyl	*90*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:29*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10.2**		5.04		mg/Kg			01/22/24 21:25	1

Client Sample ID: SS 04

Lab Sample ID: 890-5988-14
Matrix: Solid
Date Collected: 01/18/24 11:20
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 04:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 04:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 04:10	1
m-Xylene & p-Xylene	<0.00399	U *+	0.00399		mg/Kg		01/25/24 18:00	01/30/24 04:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/30/24 04:10	1
Xylenes, Total	<0.00399	U *+	0.00399		mg/Kg		01/25/24 18:00	01/30/24 04:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*01/25/24 18:00*	*01/30/24 04:10*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*01/25/24 18:00*	*01/30/24 04:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/30/24 04:10	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			01/23/24 02:50	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		01/19/24 17:25	01/23/24 02:50	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		01/19/24 17:25	01/23/24 02:50	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		01/19/24 17:25	01/23/24 02:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:50*	*1*
o-Terphenyl	*85*		*70 - 130*	*01/19/24 17:25*	*01/23/24 02:50*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 04

Lab Sample ID: 890-5988-14
Matrix: Solid
Date Collected: 01/18/24 11:20
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.8		4.99		mg/Kg			01/22/24 21:30	1

Client Sample ID: SS 05

Lab Sample ID: 890-5988-15
Matrix: Solid
Date Collected: 01/18/24 11:25
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 04:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 04:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 04:31	1
m-Xylene & p-Xylene	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 04:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/25/24 18:00	01/30/24 04:31	1
Xylenes, Total	<0.00402	U *+	0.00402		mg/Kg		01/25/24 18:00	01/30/24 04:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*	*01/25/24 18:00*	*01/30/24 04:31*	*1*
1,4-Difluorobenzene (Surr)	*67*	*S1-*	*70 - 130*	*01/25/24 18:00*	*01/30/24 04:31*	*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			01/30/24 04:31	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			01/23/24 03:11	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/23/24 03:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/23/24 03:11	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/23/24 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:11*	*1*
o-Terphenyl	*82*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:11*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11.2		4.98		mg/Kg			01/22/24 21:35	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 06

Date Collected: 01/18/24 11:30
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-16
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 04:51	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 04:51	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 04:51	1
m-Xylene & p-Xylene	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 04:51	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/25/24 18:00	01/30/24 04:51	1
Xylenes, Total	<0.00398	U *+	0.00398		mg/Kg		01/25/24 18:00	01/30/24 04:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*01/25/24 18:00*	*01/30/24 04:51*	*1*
1,4-Difluorobenzene (Surr)	*79*		*70 - 130*	*01/25/24 18:00*	*01/30/24 04:51*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/30/24 04:51	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.7	U	49.7		mg/Kg			01/23/24 03:33	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	<49.7	U	49.7		mg/Kg		01/19/24 17:25	01/23/24 03:33	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		01/19/24 17:25	01/23/24 03:33	1
OII Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		01/19/24 17:25	01/23/24 03:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:33*	*1*
o-Terphenyl	*79*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:33*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**19.7**		5.02		mg/Kg			01/22/24 21:40	1

Client Sample ID: SS 07

Date Collected: 01/18/24 11:35
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-17
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/29/24 10:57	01/30/24 01:56	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/29/24 10:57	01/30/24 01:56	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/29/24 10:57	01/30/24 01:56	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/29/24 10:57	01/30/24 01:56	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/29/24 10:57	01/30/24 01:56	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/29/24 10:57	01/30/24 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*01/29/24 10:57*	*01/30/24 01:56*	*1*

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 07

Date Collected: 01/18/24 11:35
Date Received: 01/18/24 12:56
Sample Depth: 0.5'

Lab Sample ID: 890-5988-17

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*01/29/24 10:57*	*01/30/24 01:56*	*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			01/30/24 01:56	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			01/23/24 03:55	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/19/24 17:25	01/23/24 03:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/19/24 17:25	01/23/24 03:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/19/24 17:25	01/23/24 03:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:55*	*1*
o-Terphenyl	*80*		*70 - 130*	*01/19/24 17:25*	*01/23/24 03:55*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**26.7**		5.01		mg/Kg			01/22/24 21:45	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-38548-A-1-D MS	Matrix Spike	94	100
880-38548-A-1-E MSD	Matrix Spike Duplicate	101	101
890-5988-1	PH 01	339 S1+	93
890-5988-1 MS	PH 01	280 S1+	95
890-5988-1 MSD	PH 01	504 S1+	93
890-5988-2	PH 01A	128	96
890-5988-3	PH 02	99	83
890-5988-4	PH 02A	115	102
890-5988-5	PH 03	113	97
890-5988-6	PH 03A	84	77
890-5988-7	PH 04	76	79
890-5988-8	PH 04A	84	73
890-5988-9	PH 05	82	71
890-5988-10	PH 05A	82	72
890-5988-11	SS 01	84	78
890-5988-12	SS 02	88	75
890-5988-13	SS 03	81	80
890-5988-14	SS 04	82	74
890-5988-15	SS 05	87	67 S1-
890-5988-16	SS 06	78	79
890-5988-17	SS 07	113	104
890-5998-A-42-C MS	Matrix Spike	106	86
890-5998-A-42-D MSD	Matrix Spike Duplicate	114	89
LCS 880-71633/1-A	Lab Control Sample	116	101
LCS 880-71639/1-A	Lab Control Sample	110	94
LCS 880-71786/1-A	Lab Control Sample	100	97
LCSD 880-71633/2-A	Lab Control Sample Dup	115	101
LCSD 880-71639/2-A	Lab Control Sample Dup	107	90
LCSD 880-71786/2-A	Lab Control Sample Dup	96	97
MB 880-71633/5-A	Method Blank	69 S1-	83
MB 880-71636/5-A	Method Blank	120	110
MB 880-71639/5-A	Method Blank	132 S1+	114
MB 880-71786/5-A	Method Blank	137 S1+	122

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-5986-A-21-C MS	Matrix Spike	114	84
890-5986-A-21-D MSD	Matrix Spike Duplicate	122	89
890-5988-1	PH 01	132 S1+	82
890-5988-2	PH 01A	113	88
890-5988-3	PH 02	107	88
890-5988-4	PH 02A	107	86

Surrogate Summary

Client: Ensolum Job ID: 890-5988-1
Project/Site: PLU 17 TWIN WELLS RANCH 122H SDG: 03C1558297

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)										
890-5988-5	PH 03	105	84										
890-5988-6	PH 03A	106	86										
890-5988-7	PH 04	102	82										
890-5988-8	PH 04A	117	96										
890-5988-9	PH 05	104	84										
890-5988-10	PH 05A	106	85										
890-5988-11	SS 01	89	93										
890-5988-12	SS 02	88	86										
890-5988-13	SS 03	89	90										
890-5988-14	SS 04	86	85										
890-5988-15	SS 05	83	82										
890-5988-16	SS 06	83	79										
890-5988-17	SS 07	84	80										
890-5989-A-1-C MS	Matrix Spike	87	77										
890-5989-A-1-D MSD	Matrix Spike Duplicate	86	77										
LCS 880-71254/2-A	Lab Control Sample	75	67 S1-										
LCS 880-71255/2-A	Lab Control Sample	101	125										
LCSD 880-71254/3-A	Lab Control Sample Dup	80	79										
LCSD 880-71255/3-A	Lab Control Sample Dup	101	115										
MB 880-71254/1-A	Method Blank	119	102										
MB 880-71255/1-A	Method Blank	86	88										

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-71633/5-A
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71633

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 22:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 22:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 22:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/25/24 18:00	01/29/24 22:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/25/24 18:00	01/29/24 22:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/25/24 18:00	01/29/24 22:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*69*	*S1-*	*70 - 130*	*01/25/24 18:00*	*01/29/24 22:21*	*1*
1,4-Difluorobenzene (Surr)	*83*		*70 - 130*	*01/25/24 18:00*	*01/29/24 22:21*	*1*

Lab Sample ID: LCS 880-71633/1-A
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71633

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1103		mg/Kg		110	70 - 130		
Toluene			0.100	0.1082		mg/Kg		108	70 - 130		
Ethylbenzene			0.100	0.1273		mg/Kg		127	70 - 130		
m-Xylene & p-Xylene			0.200	0.2599		mg/Kg		130	70 - 130		
o-Xylene			0.100	0.1270		mg/Kg		127	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: LCSD 880-71633/2-A
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71633

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1102		mg/Kg		110	70 - 130	0	35
Toluene			0.100	0.1107		mg/Kg		111	70 - 130	2	35
Ethylbenzene			0.100	0.1274		mg/Kg		127	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2642	*+	mg/Kg		132	70 - 130	2	35
o-Xylene			0.100	0.1280		mg/Kg		128	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 890-5988-1 MS
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: PH 01
Prep Type: Total/NA
Prep Batch: 71633

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U F1	0.0996	0.07314		mg/Kg		73	70 - 130		
Toluene	0.0262	F1	0.0996	0.07949	F1	mg/Kg		54	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: 890-5988-1 MS
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: PH 01
Prep Type: Total/NA
Prep Batch: 71633

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.259	F2 F1	0.0996	0.2700	F1	mg/Kg		11	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*280*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: 890-5988-1 MSD
Matrix: Solid
Analysis Batch: 71772

Client Sample ID: PH 01
Prep Type: Total/NA
Prep Batch: 71633

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.0990	0.06463	F1	mg/Kg		65	70 - 130	12	35
Toluene	0.0262	F1	0.0990	0.1030		mg/Kg		78	70 - 130	26	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*504*	*S1+*	*70 - 130*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*

Lab Sample ID: MB 880-71636/5-A
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71636

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:04	01/30/24 16:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:04	01/30/24 16:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:04	01/30/24 16:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/25/24 18:04	01/30/24 16:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:04	01/30/24 16:45	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/25/24 18:04	01/30/24 16:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*01/25/24 18:04*	*01/30/24 16:45*	*1*
1,4-Difluorobenzene (Surr)	*110*		*70 - 130*	*01/25/24 18:04*	*01/30/24 16:45*	*1*

Lab Sample ID: MB 880-71639/5-A
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71639

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:06	01/31/24 04:31	1
Toluene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:06	01/31/24 04:31	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:06	01/31/24 04:31	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		01/25/24 18:06	01/31/24 04:31	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		01/25/24 18:06	01/31/24 04:31	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		01/25/24 18:06	01/31/24 04:31	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: MB 880-71639/5-A
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71639

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	132	S1+	70 - 130	01/25/24 18:06	01/31/24 04:31	1
1,4-Difluorobenzene (Surr)	114		70 - 130	01/25/24 18:06	01/31/24 04:31	1

Lab Sample ID: LCS 880-71639/1-A
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 71639

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09753		mg/Kg		98	70 - 130		
Toluene			0.100	0.09463		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.1136		mg/Kg		114	70 - 130		
m-Xylene & p-Xylene			0.200	0.2029		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.09605		mg/Kg		96	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: LCSD 880-71639/2-A
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71639

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09675		mg/Kg		97	70 - 130	1	35
Toluene			0.100	0.1025		mg/Kg		102	70 - 130	8	35
Ethylbenzene			0.100	0.1163		mg/Kg		116	70 - 130	2	35
m-Xylene & p-Xylene			0.200	0.2068		mg/Kg		103	70 - 130	2	35
o-Xylene			0.100	0.09919		mg/Kg		99	70 - 130	3	35

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

Lab Sample ID: 890-5998-A-42-C MS
Matrix: Solid
Analysis Batch: 71951

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 71639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00199	U	0.0996	0.08057		mg/Kg		81	70 - 130		
Toluene	<0.00199	U	0.0996	0.08266		mg/Kg		83	70 - 130		
Ethylbenzene	<0.00199	U	0.0996	0.09552		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1585		mg/Kg		80	70 - 130		
o-Xylene	<0.00199	U	0.0996	0.07241		mg/Kg		73	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	86		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: 890-5998-A-42-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71951 — **Prep Batch: 71639**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.08706		mg/Kg		88	70 - 130	8	35
Toluene	<0.00199	U	0.0990	0.09096		mg/Kg		92	70 - 130	10	35
Ethylbenzene	<0.00199	U	0.0990	0.09592		mg/Kg		97	70 - 130	0	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1716		mg/Kg		87	70 - 130	8	35
o-Xylene	<0.00199	U	0.0990	0.07679		mg/Kg		78	70 - 130	6	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*

Lab Sample ID: MB 880-71786/5-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71848 — **Prep Batch: 71786**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/29/24 10:57	01/29/24 17:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/29/24 10:57	01/29/24 17:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/29/24 10:57	01/29/24 17:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/29/24 10:57	01/29/24 17:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/29/24 10:57	01/29/24 17:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/29/24 10:57	01/29/24 17:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*137*	*S1+*	*70 - 130*	*01/29/24 10:57*	*01/29/24 17:29*	*1*
1,4-Difluorobenzene (Surr)	*122*		*70 - 130*	*01/29/24 10:57*	*01/29/24 17:29*	*1*

Lab Sample ID: LCS 880-71786/1-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71848 — **Prep Batch: 71786**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09944		mg/Kg		99	70 - 130		
Toluene			0.100	0.09719		mg/Kg		97	70 - 130		
Ethylbenzene			0.100	0.1060		mg/Kg		106	70 - 130		
m-Xylene & p-Xylene			0.200	0.1940		mg/Kg		97	70 - 130		
o-Xylene			0.100	0.09396		mg/Kg		94	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: LCSD 880-71786/2-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71848 — **Prep Batch: 71786**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1088		mg/Kg		109	70 - 130	9	35
Toluene			0.100	0.1075		mg/Kg		107	70 - 130	10	35

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: LCSD 880-71786/2-A
Matrix: Solid
Analysis Batch: 71848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71786

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethylbenzene			0.100	0.1154		mg/Kg		115	70 - 130	9	35
m-Xylene & p-Xylene			0.200	0.2035		mg/Kg		102	70 - 130	5	35
o-Xylene			0.100	0.09740		mg/Kg		97	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*

Lab Sample ID: 880-38548-A-1-D MS
Matrix: Solid
Analysis Batch: 71848

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 71786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U	0.0996	0.09679		mg/Kg		97	70 - 130
Toluene	<0.00199	U	0.0996	0.08799		mg/Kg		88	70 - 130
Ethylbenzene	<0.00199	U	0.0996	0.09497		mg/Kg		95	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.199	0.1715		mg/Kg		86	70 - 130
o-Xylene	<0.00199	U	0.0996	0.08250		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: 880-38548-A-1-E MSD
Matrix: Solid
Analysis Batch: 71848

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 71786

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.0990	0.08458		mg/Kg		85	70 - 130	13	35
Toluene	<0.00199	U	0.0990	0.07643		mg/Kg		77	70 - 130	14	35
Ethylbenzene	<0.00199	U	0.0990	0.08291		mg/Kg		84	70 - 130	14	35
m-Xylene & p-Xylene	<0.00398	U	0.198	0.1634		mg/Kg		83	70 - 130	5	35
o-Xylene	<0.00199	U	0.0990	0.08003		mg/Kg		81	70 - 130	3	35

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

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

Lab Sample ID: MB 880-71254/1-A
Matrix: Solid
Analysis Batch: 71766

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 71254

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 07:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 07:57	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: MB 880-71254/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71766 — **Prep Batch: 71254**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/19/24 17:22	01/29/24 07:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*01/19/24 17:22*	*01/29/24 07:57*	*1*
o-Terphenyl	*102*		*70 - 130*	*01/19/24 17:22*	*01/29/24 07:57*	*1*

Lab Sample ID: LCS 880-71254/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71766 — **Prep Batch: 71254**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1053		mg/Kg		105	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	776.6		mg/Kg		78	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*75*		*70 - 130*
o-Terphenyl	*67*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-71254/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71766 — **Prep Batch: 71254**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1008		mg/Kg		101	70 - 130	4	20
Diesel Range Organics (Over C10-C28)			1000	778.1		mg/Kg		78	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*80*		*70 - 130*
o-Terphenyl	*79*		*70 - 130*

Lab Sample ID: 890-5986-A-21-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71766 — **Prep Batch: 71254**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.1	U F2	1010	1295		mg/Kg		126	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	1023		mg/Kg		97	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*84*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: 890-5986-A-21-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71766 — **Prep Batch: 71254**

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	<50.1	U F2	1010	938.9	F2	mg/Kg		90	70 - 130	32	20
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	1091		mg/Kg		104	70 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*122*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: MB 880-71255/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71295 — **Prep Batch: 71255**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/22/24 18:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/22/24 18:38	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/19/24 17:25	01/22/24 18:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 130*	*01/19/24 17:25*	*01/22/24 18:38*	*1*
o-Terphenyl	*88*		*70 - 130*	*01/19/24 17:25*	*01/22/24 18:38*	*1*

Lab Sample ID: LCS 880-71255/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71295 — **Prep Batch: 71255**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	960.0		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	961.6		mg/Kg		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*125*		*70 - 130*

Lab Sample ID: LCSD 880-71255/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 71295 — **Prep Batch: 71255**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1022		mg/Kg		102	70 - 130	6	20
Diesel Range Organics (Over C10-C28)			1000	989.3		mg/Kg		99	70 - 130	3	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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

Lab Sample ID: LCSD 880-71255/3-A
Matrix: Solid
Analysis Batch: 71295

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 71255

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	115		70 - 130

Lab Sample ID: 890-5989-A-1-C MS
Matrix: Solid
Analysis Batch: 71295

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 71255

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	1010	883.2		mg/Kg		85	70 - 130
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	919.6		mg/Kg		91	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	87		70 - 130
o-Terphenyl	77		70 - 130

Lab Sample ID: 890-5989-A-1-D MSD
Matrix: Solid
Analysis Batch: 71295

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 71255

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	<50.1	U	1010	864.2		mg/Kg		84	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.1	U	1010	938.0		mg/Kg		93	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	86		70 - 130
o-Terphenyl	77		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-71216/1-A
Matrix: Solid
Analysis Batch: 71372

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/22/24 19:11	1

Lab Sample ID: LCS 880-71216/2-A
Matrix: Solid
Analysis Batch: 71372

Client Sample ID: Lab Control Sample
Prep Type: Soluble

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

QC Sample Results

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-71216/3-A
Matrix: Solid
Analysis Batch: 71372

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	255.3		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-5988-8 MS
Matrix: Solid
Analysis Batch: 71372

Client Sample ID: PH 04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	18.7		249	274.0		mg/Kg		103	90 - 110		

Lab Sample ID: 890-5988-8 MSD
Matrix: Solid
Analysis Batch: 71372

Client Sample ID: PH 04A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	18.7		249	274.4		mg/Kg		103	90 - 110	0	20

Lab Sample ID: MB 880-71230/1-A
Matrix: Solid
Analysis Batch: 71386

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/24/24 06:32	1

Lab Sample ID: LCS 880-71230/2-A
Matrix: Solid
Analysis Batch: 71386

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.1		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-71230/3-A
Matrix: Solid
Analysis Batch: 71386

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	250.5		mg/Kg		100	90 - 110	1	20

Lab Sample ID: 890-5988-1 MS
Matrix: Solid
Analysis Batch: 71386

Client Sample ID: PH 01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	3710	F1	1250	5153	F1	mg/Kg		115	90 - 110		

Lab Sample ID: 890-5988-1 MSD
Matrix: Solid
Analysis Batch: 71386

Client Sample ID: PH 01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3710	F1	1250	5152	F1	mg/Kg		115	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

GC VOA

Prep Batch: 71633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	5035	
890-5988-2	PH 01A	Total/NA	Solid	5035	
890-5988-3	PH 02	Total/NA	Solid	5035	
890-5988-4	PH 02A	Total/NA	Solid	5035	
890-5988-5	PH 03	Total/NA	Solid	5035	
890-5988-6	PH 03A	Total/NA	Solid	5035	
890-5988-7	PH 04	Total/NA	Solid	5035	
890-5988-8	PH 04A	Total/NA	Solid	5035	
890-5988-9	PH 05	Total/NA	Solid	5035	
890-5988-10	PH 05A	Total/NA	Solid	5035	
890-5988-11	SS 01	Total/NA	Solid	5035	
890-5988-12	SS 02	Total/NA	Solid	5035	
890-5988-13	SS 03	Total/NA	Solid	5035	
890-5988-14	SS 04	Total/NA	Solid	5035	
890-5988-15	SS 05	Total/NA	Solid	5035	
890-5988-16	SS 06	Total/NA	Solid	5035	
MB 880-71633/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-71633/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-71633/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5988-1 MS	PH 01	Total/NA	Solid	5035	
890-5988-1 MSD	PH 01	Total/NA	Solid	5035	

Prep Batch: 71636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-71636/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 71639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	5035	
MB 880-71639/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-71639/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-71639/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-5998-A-42-C MS	Matrix Spike	Total/NA	Solid	5035	
890-5998-A-42-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 71772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	8021B	71633
890-5988-2	PH 01A	Total/NA	Solid	8021B	71633
890-5988-3	PH 02	Total/NA	Solid	8021B	71633
890-5988-4	PH 02A	Total/NA	Solid	8021B	71633
890-5988-5	PH 03	Total/NA	Solid	8021B	71633
890-5988-6	PH 03A	Total/NA	Solid	8021B	71633
890-5988-7	PH 04	Total/NA	Solid	8021B	71633
890-5988-8	PH 04A	Total/NA	Solid	8021B	71633
890-5988-9	PH 05	Total/NA	Solid	8021B	71633
890-5988-10	PH 05A	Total/NA	Solid	8021B	71633
890-5988-11	SS 01	Total/NA	Solid	8021B	71633
890-5988-12	SS 02	Total/NA	Solid	8021B	71633
890-5988-13	SS 03	Total/NA	Solid	8021B	71633
890-5988-14	SS 04	Total/NA	Solid	8021B	71633

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

GC VOA (Continued)

Analysis Batch: 71772 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-15	SS 05	Total/NA	Solid	8021B	71633
890-5988-16	SS 06	Total/NA	Solid	8021B	71633
MB 880-71633/5-A	Method Blank	Total/NA	Solid	8021B	71633
LCS 880-71633/1-A	Lab Control Sample	Total/NA	Solid	8021B	71633
LCSD 880-71633/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	71633
890-5988-1 MS	PH 01	Total/NA	Solid	8021B	71633
890-5988-1 MSD	PH 01	Total/NA	Solid	8021B	71633

Prep Batch: 71786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-17	SS 07	Total/NA	Solid	5035	
MB 880-71786/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-71786/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-71786/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-38548-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
880-38548-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 71848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-17	SS 07	Total/NA	Solid	8021B	71786
MB 880-71786/5-A	Method Blank	Total/NA	Solid	8021B	71786
LCS 880-71786/1-A	Lab Control Sample	Total/NA	Solid	8021B	71786
LCSD 880-71786/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	71786
880-38548-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	71786
880-38548-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	71786

Analysis Batch: 71948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	Total BTEX	
890-5988-2	PH 01A	Total/NA	Solid	Total BTEX	
890-5988-3	PH 02	Total/NA	Solid	Total BTEX	
890-5988-4	PH 02A	Total/NA	Solid	Total BTEX	
890-5988-5	PH 03	Total/NA	Solid	Total BTEX	
890-5988-6	PH 03A	Total/NA	Solid	Total BTEX	
890-5988-7	PH 04	Total/NA	Solid	Total BTEX	
890-5988-8	PH 04A	Total/NA	Solid	Total BTEX	
890-5988-9	PH 05	Total/NA	Solid	Total BTEX	
890-5988-10	PH 05A	Total/NA	Solid	Total BTEX	
890-5988-11	SS 01	Total/NA	Solid	Total BTEX	
890-5988-12	SS 02	Total/NA	Solid	Total BTEX	
890-5988-13	SS 03	Total/NA	Solid	Total BTEX	
890-5988-14	SS 04	Total/NA	Solid	Total BTEX	
890-5988-15	SS 05	Total/NA	Solid	Total BTEX	
890-5988-16	SS 06	Total/NA	Solid	Total BTEX	
890-5988-17	SS 07	Total/NA	Solid	Total BTEX	

Analysis Batch: 71951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	8021B	71639
MB 880-71636/5-A	Method Blank	Total/NA	Solid	8021B	71636
MB 880-71639/5-A	Method Blank	Total/NA	Solid	8021B	71639

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

GC VOA (Continued)

Analysis Batch: 71951 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-71639/1-A	Lab Control Sample	Total/NA	Solid	8021B	71639
LCSD 880-71639/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	71639
890-5998-A-42-C MS	Matrix Spike	Total/NA	Solid	8021B	71639
890-5998-A-42-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	71639

GC Semi VOA

Prep Batch: 71254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	8015NM Prep	
890-5988-2	PH 01A	Total/NA	Solid	8015NM Prep	
890-5988-3	PH 02	Total/NA	Solid	8015NM Prep	
890-5988-4	PH 02A	Total/NA	Solid	8015NM Prep	
890-5988-5	PH 03	Total/NA	Solid	8015NM Prep	
890-5988-6	PH 03A	Total/NA	Solid	8015NM Prep	
890-5988-7	PH 04	Total/NA	Solid	8015NM Prep	
890-5988-8	PH 04A	Total/NA	Solid	8015NM Prep	
890-5988-9	PH 05	Total/NA	Solid	8015NM Prep	
890-5988-10	PH 05A	Total/NA	Solid	8015NM Prep	
MB 880-71254/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-71254/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-71254/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5986-A-21-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5986-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 71255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-11	SS 01	Total/NA	Solid	8015NM Prep	
890-5988-12	SS 02	Total/NA	Solid	8015NM Prep	
890-5988-13	SS 03	Total/NA	Solid	8015NM Prep	
890-5988-14	SS 04	Total/NA	Solid	8015NM Prep	
890-5988-15	SS 05	Total/NA	Solid	8015NM Prep	
890-5988-16	SS 06	Total/NA	Solid	8015NM Prep	
890-5988-17	SS 07	Total/NA	Solid	8015NM Prep	
MB 880-71255/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-71255/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-71255/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-5989-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-5989-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 71295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-11	SS 01	Total/NA	Solid	8015B NM	71255
890-5988-12	SS 02	Total/NA	Solid	8015B NM	71255
890-5988-13	SS 03	Total/NA	Solid	8015B NM	71255
890-5988-14	SS 04	Total/NA	Solid	8015B NM	71255
890-5988-15	SS 05	Total/NA	Solid	8015B NM	71255
890-5988-16	SS 06	Total/NA	Solid	8015B NM	71255
890-5988-17	SS 07	Total/NA	Solid	8015B NM	71255
MB 880-71255/1-A	Method Blank	Total/NA	Solid	8015B NM	71255
LCS 880-71255/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	71255

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

GC Semi VOA (Continued)

Analysis Batch: 71295 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-71255/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	71255
890-5989-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	71255
890-5989-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	71255

Analysis Batch: 71440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	8015 NM	
890-5988-2	PH 01A	Total/NA	Solid	8015 NM	
890-5988-3	PH 02	Total/NA	Solid	8015 NM	
890-5988-4	PH 02A	Total/NA	Solid	8015 NM	
890-5988-5	PH 03	Total/NA	Solid	8015 NM	
890-5988-6	PH 03A	Total/NA	Solid	8015 NM	
890-5988-7	PH 04	Total/NA	Solid	8015 NM	
890-5988-8	PH 04A	Total/NA	Solid	8015 NM	
890-5988-9	PH 05	Total/NA	Solid	8015 NM	
890-5988-10	PH 05A	Total/NA	Solid	8015 NM	
890-5988-11	SS 01	Total/NA	Solid	8015 NM	
890-5988-12	SS 02	Total/NA	Solid	8015 NM	
890-5988-13	SS 03	Total/NA	Solid	8015 NM	
890-5988-14	SS 04	Total/NA	Solid	8015 NM	
890-5988-15	SS 05	Total/NA	Solid	8015 NM	
890-5988-16	SS 06	Total/NA	Solid	8015 NM	
890-5988-17	SS 07	Total/NA	Solid	8015 NM	

Analysis Batch: 71766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Total/NA	Solid	8015B NM	71254
890-5988-2	PH 01A	Total/NA	Solid	8015B NM	71254
890-5988-3	PH 02	Total/NA	Solid	8015B NM	71254
890-5988-4	PH 02A	Total/NA	Solid	8015B NM	71254
890-5988-5	PH 03	Total/NA	Solid	8015B NM	71254
890-5988-6	PH 03A	Total/NA	Solid	8015B NM	71254
890-5988-7	PH 04	Total/NA	Solid	8015B NM	71254
890-5988-8	PH 04A	Total/NA	Solid	8015B NM	71254
890-5988-9	PH 05	Total/NA	Solid	8015B NM	71254
890-5988-10	PH 05A	Total/NA	Solid	8015B NM	71254
MB 880-71254/1-A	Method Blank	Total/NA	Solid	8015B NM	71254
LCS 880-71254/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	71254
LCSD 880-71254/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	71254
890-5986-A-21-C MS	Matrix Spike	Total/NA	Solid	8015B NM	71254
890-5986-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	71254

HPLC/IC

Leach Batch: 71216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-8	PH 04A	Soluble	Solid	DI Leach	
890-5988-9	PH 05	Soluble	Solid	DI Leach	
890-5988-10	PH 05A	Soluble	Solid	DI Leach	
890-5988-11	SS 01	Soluble	Solid	DI Leach	
890-5988-12	SS 02	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

HPLC/IC (Continued)

Leach Batch: 71216 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-13	SS 03	Soluble	Solid	DI Leach	
890-5988-14	SS 04	Soluble	Solid	DI Leach	
890-5988-15	SS 05	Soluble	Solid	DI Leach	
890-5988-16	SS 06	Soluble	Solid	DI Leach	
890-5988-17	SS 07	Soluble	Solid	DI Leach	
MB 880-71216/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-71216/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-71216/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5988-8 MS	PH 04A	Soluble	Solid	DI Leach	
890-5988-8 MSD	PH 04A	Soluble	Solid	DI Leach	

Leach Batch: 71230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Soluble	Solid	DI Leach	
890-5988-2	PH 01A	Soluble	Solid	DI Leach	
890-5988-3	PH 02	Soluble	Solid	DI Leach	
890-5988-4	PH 02A	Soluble	Solid	DI Leach	
890-5988-5	PH 03	Soluble	Solid	DI Leach	
890-5988-6	PH 03A	Soluble	Solid	DI Leach	
890-5988-7	PH 04	Soluble	Solid	DI Leach	
MB 880-71230/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-71230/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-71230/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-5988-1 MS	PH 01	Soluble	Solid	DI Leach	
890-5988-1 MSD	PH 01	Soluble	Solid	DI Leach	

Analysis Batch: 71372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-8	PH 04A	Soluble	Solid	300.0	71216
890-5988-9	PH 05	Soluble	Solid	300.0	71216
890-5988-10	PH 05A	Soluble	Solid	300.0	71216
890-5988-11	SS 01	Soluble	Solid	300.0	71216
890-5988-12	SS 02	Soluble	Solid	300.0	71216
890-5988-13	SS 03	Soluble	Solid	300.0	71216
890-5988-14	SS 04	Soluble	Solid	300.0	71216
890-5988-15	SS 05	Soluble	Solid	300.0	71216
890-5988-16	SS 06	Soluble	Solid	300.0	71216
890-5988-17	SS 07	Soluble	Solid	300.0	71216
MB 880-71216/1-A	Method Blank	Soluble	Solid	300.0	71216
LCS 880-71216/2-A	Lab Control Sample	Soluble	Solid	300.0	71216
LCSD 880-71216/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	71216
890-5988-8 MS	PH 04A	Soluble	Solid	300.0	71216
890-5988-8 MSD	PH 04A	Soluble	Solid	300.0	71216

Analysis Batch: 71386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-1	PH 01	Soluble	Solid	300.0	71230
890-5988-2	PH 01A	Soluble	Solid	300.0	71230
890-5988-3	PH 02	Soluble	Solid	300.0	71230
890-5988-4	PH 02A	Soluble	Solid	300.0	71230
890-5988-5	PH 03	Soluble	Solid	300.0	71230

QC Association Summary

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

HPLC/IC (Continued)

Analysis Batch: 71386 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5988-6	PH 03A	Soluble	Solid	300.0	71230
890-5988-7	PH 04	Soluble	Solid	300.0	71230
MB 880-71230/1-A	Method Blank	Soluble	Solid	300.0	71230
LCS 880-71230/2-A	Lab Control Sample	Soluble	Solid	300.0	71230
LCSD 880-71230/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	71230
890-5988-1 MS	PH 01	Soluble	Solid	300.0	71230
890-5988-1 MSD	PH 01	Soluble	Solid	300.0	71230

Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 01

Date Collected: 01/17/24 11:00
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	71639	01/25/24 18:06	MNR	EET MID
Total/NA	Analysis	8021B		25	5 mL	5 mL	71951	01/31/24 09:53	MNR	EET MID
Total/NA	Prep	5035			4.98 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/29/24 22:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/31/24 09:53	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 15:10	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 15:10	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71386	01/24/24 11:55	SMC	EET MID

Client Sample ID: PH 01A

Date Collected: 01/17/24 11:30
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-2

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			5.02 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/29/24 23:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/29/24 23:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 15:32	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 15:32	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71386	01/24/24 07:13	SMC	EET MID

Client Sample ID: PH 02

Date Collected: 01/17/24 11:50
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-3

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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/29/24 23:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/29/24 23:24	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 15:54	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 15:54	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	71386	01/24/24 07:20	SMC	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 02A
Date Collected: 01/17/24 12:10
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-4
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			5.01 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/29/24 23:44	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/29/24 23:44	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 16:14	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 16:14	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71386	01/24/24 07:27	SMC	EET MID

Client Sample ID: PH 03
Date Collected: 01/17/24 12:30
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 00:05	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 00:05	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 16:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 16:36	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71386	01/24/24 07:34	SMC	EET MID

Client Sample ID: PH 03A
Date Collected: 01/18/24 12:45
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 00:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 00:25	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 16:57	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 16:57	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71386	01/24/24 07:55	SMC	EET MID

Client Sample ID: PH 04
Date Collected: 01/18/24 09:15
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 00:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 00:45	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 04

Lab Sample ID: 890-5988-7
Matrix: Solid
Date Collected: 01/18/24 09:15
Date Received: 01/18/24 12:56

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			71440	01/29/24 17:18	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 17:18	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	71230	01/19/24 14:56	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71386	01/24/24 08:02	SMC	EET MID

Client Sample ID: PH 04A

Lab Sample ID: 890-5988-8
Matrix: Solid
Date Collected: 01/18/24 09:30
Date Received: 01/18/24 12:56

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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 01:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 01:06	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 17:39	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 17:39	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 20:38	SMC	EET MID

Client Sample ID: PH 05

Lab Sample ID: 890-5988-9
Matrix: Solid
Date Collected: 01/18/24 09:50
Date Received: 01/18/24 12:56

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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 01:26	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 01:26	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 18:00	SM	EET MID
Total/NA	Prep	8015NM Prep			9.98 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 18:00	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 20:54	SMC	EET MID

Client Sample ID: PH 05A

Lab Sample ID: 890-5988-10
Matrix: Solid
Date Collected: 01/18/24 10:05
Date Received: 01/18/24 12:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 01:47	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 01:47	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/29/24 18:22	SM	EET MID
Total/NA	Prep	8015NM Prep			9.95 g	10 mL	71254	01/19/24 17:22	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71766	01/29/24 18:22	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: PH 05A

Date Collected: 01/18/24 10:05
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 20:59	SMC	EET MID

Client Sample ID: SS 01

Date Collected: 01/18/24 11:00
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 03:09	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 03:09	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 01:46	SM	EET MID
Total/NA	Prep	8015NM Prep			9.97 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 01:46	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:14	SMC	EET MID

Client Sample ID: SS 02

Date Collected: 01/18/24 11:05
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 03:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 03:29	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 02:08	SM	EET MID
Total/NA	Prep	8015NM Prep			9.92 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 02:08	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:19	SMC	EET MID

Client Sample ID: SS 03

Date Collected: 01/18/24 11:10
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-13
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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 03:50	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 03:50	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 02:29	SM	EET MID
Total/NA	Prep	8015NM Prep			9.90 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 02:29	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:25	SMC	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 04

Date Collected: 01/18/24 11:20
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-14
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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 04:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 04:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 02:50	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 02:50	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:30	SMC	EET MID

Client Sample ID: SS 05

Date Collected: 01/18/24 11:25
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-15
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	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 04:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 04:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 03:11	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 03:11	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:35	SMC	EET MID

Client Sample ID: SS 06

Date Collected: 01/18/24 11:30
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	71633	01/25/24 18:00	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71772	01/30/24 04:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 04:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			71440	01/23/24 03:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.06 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 03:33	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:40	SMC	EET MID

Client Sample ID: SS 07

Date Collected: 01/18/24 11:35
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-17
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	71786	01/29/24 10:57	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	71848	01/30/24 01:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			71948	01/30/24 01:56	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Client Sample ID: SS 07

Date Collected: 01/18/24 11:35
Date Received: 01/18/24 12:56

Lab Sample ID: 890-5988-17

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			71440	01/23/24 03:55	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	71255	01/19/24 17:25	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	71295	01/23/24 03:55	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	71216	01/19/24 14:32	SA	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	71372	01/22/24 21:45	SMC	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: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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	T104704400-23-26	06-30-24

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: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

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: PLU 17 TWIN WELLS RANCH 122H

Job ID: 890-5988-1
SDG: 03C1558297

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-5988-1	PH 01	Solid	01/17/24 11:00	01/18/24 12:56	0.5'
890-5988-2	PH 01A	Solid	01/17/24 11:30	01/18/24 12:56	4'
890-5988-3	PH 02	Solid	01/17/24 11:50	01/18/24 12:56	0.5'
890-5988-4	PH 02A	Solid	01/17/24 12:10	01/18/24 12:56	3'
890-5988-5	PH 03	Solid	01/17/24 12:30	01/18/24 12:56	0.5'
890-5988-6	PH 03A	Solid	01/18/24 12:45	01/18/24 12:56	3'
890-5988-7	PH 04	Solid	01/18/24 09:15	01/18/24 12:56	0.5'
890-5988-8	PH 04A	Solid	01/18/24 09:30	01/18/24 12:56	3'
890-5988-9	PH 05	Solid	01/18/24 09:50	01/18/24 12:56	0.5'
890-5988-10	PH 05A	Solid	01/18/24 10:05	01/18/24 12:56	3'
890-5988-11	SS 01	Solid	01/18/24 11:00	01/18/24 12:56	0.5'
890-5988-12	SS 02	Solid	01/18/24 11:05	01/18/24 12:56	0.5'
890-5988-13	SS 03	Solid	01/18/24 11:10	01/18/24 12:56	0.5'
890-5988-14	SS 04	Solid	01/18/24 11:20	01/18/24 12:56	0.5'
890-5988-15	SS 05	Solid	01/18/24 11:25	01/18/24 12:56	0.5'
890-5988-16	SS 06	Solid	01/18/24 11:30	01/18/24 12:56	0.5'
890-5988-17	SS 07	Solid	01/18/24 11:35	01/18/24 12:56	0.5'

Loc: 890
5988

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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

890-5988 Chain of Custody

5988

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.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:	PLU 17 Twin Wells Ranch 122H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558297	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	FNAOC7
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	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
PH01	S	1/17/24	1100	.5	G	1			
PH01A			1130	4					
PH02			1150	.5					
PH02A			1210	3					
PH03			1230	.5					
PH03A		↓	1245	3					
PH04		1/18/24	915	.5					
PH04A			930	3					
PH05			950	.5					
PH05A	↓	↓	1005	3	↓	↓			

Sample Comments

Incident ID: NAPP2334152485
Cost Center: 1665561001
AFE:

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12:56 1/18			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

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Chain of Custody

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

Work Order No: 5988

www.xenco.com Page 2 of 2

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.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:	PLU 17 Twin Wells Ranch 122H	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558297	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	T Nano
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	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
SS01	S	1/18/24	1100	.5	G	1			
SS02			1105	.5					
SS03			1110	.5					
SS04			1120	.5					
SS05			1125	.5					
SS06			1130	.5					
SS07	↓	↓	1135	.5	↓	↓			

Parameters

Sample Comments

Incident ID: NAPP2334152485
Cost Center: 1665561001
AFE:

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

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	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12:56 1/19			
3				4		
5				6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-5988-1
SDG Number: 03C1558297

Login Number: 5988
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: 890-5988-1
SDG Number: 03C1558297

Login Number: 5988
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 01/19/24 03:48 PM

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

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

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

QUESTIONS

Action 320494

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 320494
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2334152485**
Incident Name	**NAPP2334152485 PLU 17 TWIN WELLS RANCH 122H @ 0**
Incident Type	**Other**
Incident Status	**Remediation Plan Received**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU 17 Twin Wells Ranch 122H
Date Release Discovered	12/06/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Other
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	Cause: Other | Flow Line - Production | Crude Oil | Released: 6 BBL | Recovered: 5 BBL | Lost: 1 BBL.
Produced Water Released (bbls) Details	Cause: Other | Flow Line - Production | Produced Water | Released: 25 BBL | Recovered: 21 BBL | Lost: 4 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
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.*

District I
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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 320494
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

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	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**
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: Melanie Collins Title: Regulatory Analyst Email: Melanie.Collins@exxonmobil.com Date: 12/14/2023

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QUESTIONS (continued)

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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 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
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 ½ and 1 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between ½ and 1 (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 ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between ½ and 1 (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
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)	3710
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	4200
GRO+DRO (EPA SW-846 Method 8015M)	3750
BTEX (EPA SW-846 Method 8021B or 8260B)	6.1
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	05/04/2024
On what date will (or did) the final sampling or liner inspection occur	08/02/2024
On what date will (or was) the remediation complete(d)	08/02/2024
What is the estimated surface area (in square feet) that will be reclaimed	1540
What is the estimated volume (in cubic yards) that will be reclaimed	230
What is the estimated surface area (in square feet) that will be remediated	2940
What is the estimated volume (in cubic yards) that will be remediated	450
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.	

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QUESTIONS (continued)

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	Action Number: 320494
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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	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
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: Amy Ruth Title: Coordinator SSHE Environmental Email: amy.ruth@exxonmobil.com Date: 03/05/2024
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)

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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)

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QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**302620**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/19/2024**
What was the (estimated) number of samples that were to be gathered	**39**
What was the sampling surface area in square feet	**7800**

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	No

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CONDITIONS

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 320494
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	The soil boring C-04759 that exceeds 107 feet bgs and is located 0.66 miles west of the Site, and soil boring C-04499 that exceeds 110 feet bgs and is located 0.79 miles east of the Site is just outside of the ½ mile requirement. The release is not within a 100-year floodplain. Also, the release is located in low karst and depth to groundwater appears to be >100 feet. The variance request to utilize these points as depth to groundwater is approved. Please include this e-mail correspondence in the remediation and/or closure report.	3/12/2024