



April 26, 2023

New Mexico Oil Conservation Division

New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request
Zapata BQZ State Com 001H
Incident Number NAPP2305140243
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of COG Operating, LLC (COG), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the Zapata BQZ State Com 001H (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a condensate flare fire at the Site. Based on excavation activities and laboratory analytical results from soil sampling events, COG is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number NAPP2305140243.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit N, Section 2, Township 26 South, Range 32 East, in Lea County, New Mexico (32.0658°, -103.6467°) and is associated with oil and gas exploration and production operations on New Mexico State Land.

On February 2, 2023, a frozen line restricting fluid flow resulted in fluid being sent to the flare, causing a small fire on pad. The released volume was estimated to be approximately 0.19 barrels (bbls) of condensate. The released condensate ignited and extinguished itself after reaching the ground. COG reported the release immediately to the New Mexico Oil Conservation Division (NMOCD) via email on February 11, 2023 and submitted a Release Notification Form C-141 (Form C-141) on February 20, 2023. The release was assigned Incident Number NAPP2305140243.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential Site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04549, located approximately 0.4 miles southwest of the Site. The groundwater well has a reported depth to groundwater greater than 103 feet bgs. Ground surface elevation at the groundwater well location is

3,246 feet above mean sea level (amsl), which is approximately 16 feet lower in elevation than the Site. All wells used for depth to groundwater determination are depicted on Figure 1 and the associated well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a riverine, located approximately 1,880 feet southeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

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

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

INITIAL ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On February 28, 2023, and March 27, 2023, Ensolum personnel were at the Site to complete assessment and delineation activities based on visible staining in the release area and information provided by the C-141. Soil samples SS01 through SS04, collected around the release extent, were collected at a depth of 0.5 feet bgs to assess the lateral extent of the release. Soil sample SS05, collected within the release extent via hand auger, was collected at depths of 0.5 feet and 1-foot bgs. Soil samples SS06 and SS07, collected within the release extent, were collected at a depth of 0.5 feet bgs to assess surficial soil associated with the release. Soil from the assessment samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Laboratory analytical results for soil samples SS01 through SS04 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria and successfully defined the lateral extent of the release. Laboratory analytical results for soil sample SS05, collected at 0.5 feet and 1-foot bgs, and SS06, collected at 0.5 feet bgs and within the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for soil sample SS07, collected within the release at a depth of 0.5 feet bgs, indicated TPH concentrations exceeded the Site Closure Criteria. Based on visible staining and laboratory analytical results for soil sample SS07, excavation activities were warranted.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

On March 27, 2023, Ensolum personnel were at the Site to oversee excavation activities based on visible staining and laboratory analytical results for soil sample SS07. Excavation activities were performed using a backhoe and transport vehicles. To direct excavation activities, soil was screened for VOCs and chloride. The excavation was completed to a total depth of 1.5 feet bgs. Photographic documentation of the excavation activities is included in Appendix B.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor of the excavation extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Due to the shallow depth of the excavation, the sidewalls were incorporated into the floor samples. Composite soil samples FS01 through FS04 were collected from the floor of the excavation at depths ranging from 0.5 feet to 1.5 feet bgs. The soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 3.

Laboratory analytical results for the excavation soil samples FS01 through FS04 indicated all COC concentrations were compliant with the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix C.

The excavation area measured approximately 778 square feet. A total of 43 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the February 2, 2023, condensate flare fire. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the most stringent Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. COG believes these remedial actions are protective of human health, the environment, and groundwater. As such, COG respectfully requests closure for Incident Number NAPP2305140243.

Zapata BQZ State Com 001H
Closure Request
COG Operating, LLC



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

Sincerely,
Ensolum, LLC

A handwritten signature in black ink that reads "Hadlie Green".

Hadlie Green
Project Geologist

A handwritten signature in black ink that appears to read "Daniel R. Moir".

Daniel R. Moir, PG
Senior Managing Geologist

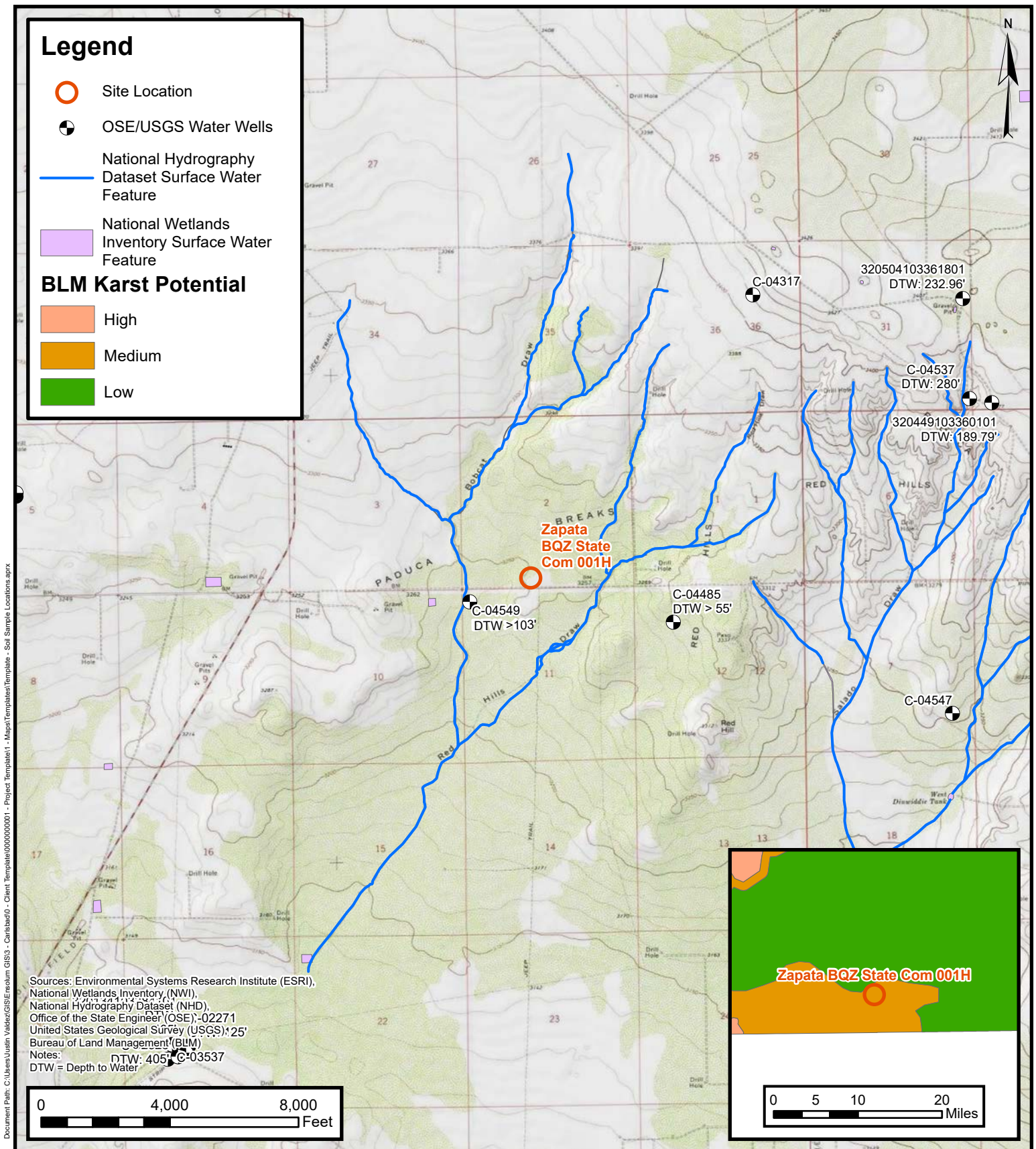
cc: Jacob Laird, COG Operating, LLC
New Mexico State Land Office

Appendices:

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



FIGURES



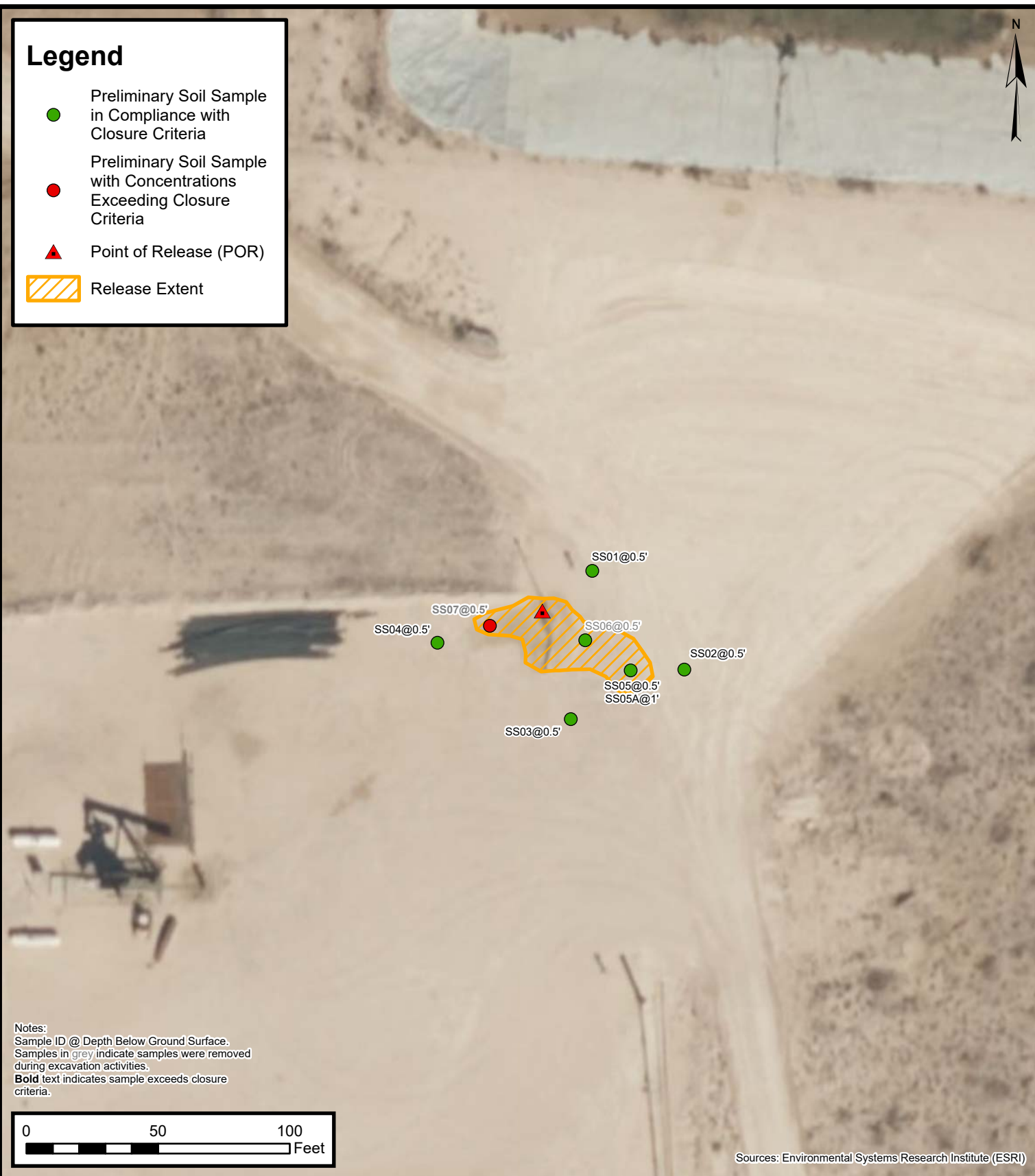
Site Receptor Map

Zapata BQZ State Com 001H
 COG Operating, LLC
 Incident Number NAPP2305140243
 Unit N, Sec 02, T26S, R32E
 Lea County, New Mexico

FIGURE
 1

Legend

- Preliminary Soil Sample in Compliance with Closure Criteria
- Preliminary Soil Sample with Concentrations Exceeding Closure Criteria
- ▲ Point of Release (POR)
- Release Extent



Preliminary Soil Sample Locations

Zapata BQZ State Com 001H
 COG Operating, LLC
 Incident Number NAPP2305140243
 Unit N, Sec 02, T26S, R32E
 Lea County, New Mexico

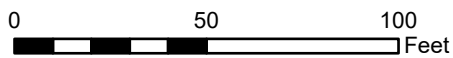
FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Point of Release (POR)
- Excavation Extent



Notes:
Sample ID @ Depth Below Ground Surface.



Sources: Environmental Systems Research Institute (ESRI)



Excavation Soil Sample Locations

Zapata BQZ State Com 001H
COG Operating, LLC
Incident Number NAPP2305140243
Unit N, Sec 02, T26S, R32E
Lea County, New Mexico

FIGURE

3



TABLES



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Zapata BQZ State Com 001H COG Operating, LLC Lea County, New Mexico										
Sample Designation	Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Preliminary Assessment Soil Samples										
SS01	02/28/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	85.8
SS02	02/28/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	257
SS03	02/28/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	170
SS04	02/28/2023	0.5	<0.00199	<0.00398	<50.0	66.2	<50.0	66.2	66.2	141
SS05	02/28/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	111
SS05A	03/27/2023	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	86.7
SS06	02/28/2023	0.5	<0.00201	<0.00402	<49.9	143	<49.9	143	143	97.1
SS07	02/28/2023	0.5	<0.00202	<0.00404	<50.0	6,500	<50.0	6,500	6,500	289
Excavation Soil Samples										
FS01	03/27/2023	0.5	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	111
FS02	03/27/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	126
FS03	03/27/2023	1.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	164
FS04	03/27/2023	1.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	86.2

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation standard where applicable.**Grey** text represents samples that have been excavated



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DJT AUG 2 2021 PM4:45

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (MW-1)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4549			
	WELL OWNER NAME(S) BTA Oil Producers				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 104 S. Pecos St.				CITY Midland	STATE TX	ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 4	SECONDS 40.92	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
	LONGITUDE 103	37	53.68	W	* DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE NW NW NW Sec. 11 T26S R32E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/14/2021		DRILLING ENDED 07/14/2021		DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 103	DEPTH WATER FIRST ENCOUNTERED (FT) n/a	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	0 103		±8.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		

FOR OSE INTERNAL USE

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

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

PAGE 1 OF 2

OSE DT AUG 2 2021 PM4:45

1. HYDROGEOLOGIC LOG OF WELL

FOR USE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/2017)	
FILE NO. C-4549	POD NO. 1	TRN NO. 698318	
LOCATION 26S-32E-11	1.1.1	WELL TAG ID NO. NA	PAGE 2 OF 2



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
20E6C	C 04537 POD1	4	4	4	31	25S	33E	631847	3550243



x

Driller License: 1706 **Driller Company:** ELITE DRILLERS CORPORATION

Driller Name: WALLACE, BRYCE J.LEE.NER

Drill Start Date: 06/11/2021 **Drill Finish Date:** 06/12/2021 **Plug Date:**

Log File Date: 06/21/2021 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 5 GPM

Casing Size: 4.00 **Depth Well:** 500 feet **Depth Water:** 280 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	220	340	Sandstone/Gravel/Conglomerate

x

Casing Perforations:	Top	Bottom
	300	500

x

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

3/1/23 3:01 PM

POINT OF DIVERSION SUMMARY



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE POD NO. (WELL NO.) C-04485		OWL 362	WELL TAG ID NO. NA	OSE FILE NO(S) C-04485
WELL OWNER NAME(S) KJ ENVIRONMENTAL			PHONE (OPTIONAL) 214-287-5875	
WELL OWNER MAILING ADDRESS 500 MOSSELEY ROAD			CITY CROSS ROADS	STATE TX ZIP 76227
WELL LOCATION (FROM GPS)	DEGREES LATITUDE	MINUTES 3548560	SECONDS N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
	LONGITUDE	629271	W	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE				

[illegible]

DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
FROM	TO				
55	43	8"	Sand 10/20	10	tremie
43	41	8"	Hole Plug	1	
41	0	8"	Grout	100 gal.	↓

FOR OSE INTERNAL USE

FILE NO. 11-2599

LOCATION 2-2-4

POD NO.

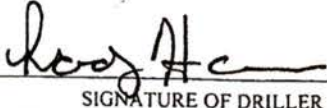
2N-33E-10

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

TRN NO. 109336

WELL TAG ID NO.

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		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)
	FROM	TO				
	0	10		Sand + gravel	Y (N)	
	10	25		gravel + caliche	Y (N)	
	25	45		caliche	Y (N)	
	45	55		sandstone	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	
					Y N	
					Y N	
					Y N	
					Y N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> 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:					
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:						
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 20 DAYS AFTER COMPLETION OF WELL DRILLING:					
	 Rodney Hammer SIGNATURE OF DRILLER / PRINT SIGNEE NAME					10-14-20 DATE

FOR USE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO.	POD NO.	TRN NO.
LOCATION	WELL TAG ID NO.	PAGE 2 OF 2



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Site Information ▼

Geographic Area:

United States ▼

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USGS 320449103360101 25S.33E.31.44424

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▼

GO

Well Site

DESCRIPTION:

Latitude 32°04'49", Longitude 103°36'01" NAD27

Lea County, New Mexico , Hydrologic Unit 13070001

Well depth: not determined.

Land surface altitude: 3,383 feet above NAVD88.

Well completed in "Other aquifers" (N9999OTHER) national aquifer.

Well completed in "Chinle Formation" (231CHNL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1981-03-25	1986-03-18	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

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Title: NWIS Site Information for USA: Site Inventory

URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=320449103360101



Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2023-03-01 17:06:43 EST

0.26 0.25 caww01



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USGS Water Resources

Data Category:
Groundwater

Geographic Area:
United States

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Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 320449103360101

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 320449103360101 25S.33E.31.44424

Lea County, New Mexico
Latitude 32°04'49", Longitude 103°36'01" NAD27
Land-surface elevation 3,383 feet above NAVD88
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1981-03-25		D	62610		3189.23	NGVD29	P		Z		A
1981-03-25		D	62611		3190.85	NAVD88	P		Z		A
1981-03-25		D	72019	192.15			P		Z		A
1986-03-18		D	62610		3191.59	NGVD29	1		Z		A
1986-03-18		D	62611		3193.21	NAVD88	1		Z		A
1986-03-18		D	72019	189.79			1		Z		A

Explanation

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

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Title: Groundwater for USA: Water Levels

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

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2023-03-01 17:15:21 EST

0.29 0.25 nadww01





APPENDIX B

Photographic Log

**Photographic Log**

COG Operating, LLC

Zapata BQZ State Com 001H

Incident Number NAPP2305140243



Photograph: 1 Date: 2/28/2023
Description: Initial assessment activities
View: North



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



Photograph: 3 Date: 3/27/2023
Description: Excavation activities
View: East



Photograph: 4 Date: 3/27/2023
Description: Excavation activities
View: West



APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

1

2

3

4

5

6

7

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ANALYTICAL REPORT

PREPARED FOR

Attn: Kalei Jennings

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 3/15/2023 3:43:35 PM

JOB DESCRIPTION

Zapata BQZ State Com 001H

SDG NUMBER 03D2024163

JOB NUMBER

890-4216-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

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

Authorization

Generated
3/15/2023 3:43:35 PM

Authorized for release by
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Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Laboratory Job ID: 890-4216-1
SDG: 03D2024163

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Definitions/Glossary

Client: Ensolum

Job ID: 890-4216-1

Project/Site: Zapata BQZ State Com 001H

SDG: 03D2024163

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

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Case Narrative

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Job ID: 890-4216-1

Laboratory: Eurofins Carlsbad

Narrative	Job Narrative 890-4216-1
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Receipt

The samples were received on 3/1/2023 3:37 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4216-1), SS02 (890-4216-2), SS03 (890-4216-3), SS04 (890-4216-4), SS05 (890-4216-5), SS06 (890-4216-6) and SS07 (890-4216-7).

GC VOA

Method 8021B: Surrogate recovery for the following samples were outside control limits: SS04 (890-4216-4), SS05 (890-4216-5), SS06 (890-4216-6) and (890-4212-A-21-I). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-48243 and analytical batch 880-48520 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-47810 and analytical batch 880-47832 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-47810 and analytical batch 880-47832 was outside the upper control limits.

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS01

Lab Sample ID: 890-4216-1

Date Collected: 02/28/23 09:30

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/13/23 23:58	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/13/23 23:58	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/13/23 23:58	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/13/23 23:58	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/13/23 23:58	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/13/23 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	03/09/23 15:25	03/13/23 23:58	1
1,4-Difluorobenzene (Surr)	86		70 - 130	03/09/23 15:25	03/13/23 23:58	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/06/23 13:36	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	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	115		70 - 130	03/04/23 09:43	03/06/23 01:35	1
o-Terphenyl	113		70 - 130	03/04/23 09:43	03/06/23 01:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	85.8		5.04	mg/Kg			03/06/23 19:18	1

Client Sample ID: SS02

Lab Sample ID: 890-4216-2

Date Collected: 02/28/23 09:35

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 00:19	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 00:19	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 00:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 00:19	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 00:19	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	03/09/23 15:25	03/14/23 00:19	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS02

Lab Sample ID: 890-4216-2

Date Collected: 02/28/23 09:35

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	108		70 - 130	03/09/23 15:25	03/14/23 00:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/06/23 13:36	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	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:56	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:56	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 01:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130			03/04/23 09:43	03/06/23 01:56	1
o-Terphenyl	105		70 - 130			03/04/23 09:43	03/06/23 01:56	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	257		4.98	mg/Kg			03/06/23 19:37	1

Client Sample ID: SS03

Lab Sample ID: 890-4216-3

Date Collected: 02/28/23 09:40

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/14/23 00:39	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/14/23 00:39	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/14/23 00:39	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/09/23 15:25	03/14/23 00:39	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/14/23 00:39	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/09/23 15:25	03/14/23 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130	03/09/23 15:25	03/14/23 00:39	1
1,4-Difluorobenzene (Surr)	102		70 - 130	03/09/23 15:25	03/14/23 00:39	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			03/06/23 13:36	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS03

Lab Sample ID: 890-4216-3

Date Collected: 02/28/23 09:40

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/06/23 02:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/06/23 02:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/06/23 02:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130			03/04/23 09:43	03/06/23 02:17	1
o-Terphenyl	104		70 - 130			03/04/23 09:43	03/06/23 02:17	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		4.95	mg/Kg			03/06/23 19:43	1

Client Sample ID: SS04

Lab Sample ID: 890-4216-4

Date Collected: 02/28/23 09:45

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 01:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	49	S1-	70 - 130			03/09/23 15:25	03/14/23 01:00	1
1,4-Difluorobenzene (Surr)	98		70 - 130			03/09/23 15:25	03/14/23 01:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	66.2		50.0	mg/Kg			03/06/23 13:36	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		03/04/23 09:43	03/06/23 02:37	1
Diesel Range Organics (Over C10-C28)	66.2		50.0	mg/Kg		03/04/23 09:43	03/06/23 02:37	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/06/23 02:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	110		70 - 130			03/04/23 09:43	03/06/23 02:37	1
o-Terphenyl	105		70 - 130			03/04/23 09:43	03/06/23 02:37	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS04

Lab Sample ID: 890-4216-4

Date Collected: 02/28/23 09:45

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	141		5.05	mg/Kg			03/06/23 19:49	1

Client Sample ID: SS05

Lab Sample ID: 890-4216-5

Date Collected: 02/28/23 10:15

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/09/23 15:25	03/14/23 01:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	48	S1-	70 - 130			03/09/23 15:25	03/14/23 01:21	1
1,4-Difluorobenzene (Surr)	73		70 - 130			03/09/23 15:25	03/14/23 01:21	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			03/06/23 13:36	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	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 02:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 02:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 02:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	111		70 - 130			03/04/23 09:43	03/06/23 02:58	1
o-Terphenyl	110		70 - 130			03/04/23 09:43	03/06/23 02:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		4.98	mg/Kg			03/06/23 19:55	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS06

Lab Sample ID: 890-4216-6

Date Collected: 02/28/23 10:20

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/09/23 15:25	03/14/23 01:41	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/09/23 15:25	03/14/23 01:41	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/09/23 15:25	03/14/23 01:41	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/09/23 15:25	03/14/23 01:41	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/09/23 15:25	03/14/23 01:41	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/09/23 15:25	03/14/23 01:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	46	S1-	70 - 130	03/09/23 15:25	03/14/23 01:41	1
1,4-Difluorobenzene (Surr)	94		70 - 130	03/09/23 15:25	03/14/23 01:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	143		49.9	mg/Kg			03/06/23 13:36	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	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 03:18	1
Diesel Range Organics (Over C10-C28)	143		49.9	mg/Kg		03/04/23 09:43	03/06/23 03:18	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/04/23 09:43	03/06/23 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	123		70 - 130	03/04/23 09:43	03/06/23 03:18	1
o-Terphenyl	121		70 - 130	03/04/23 09:43	03/06/23 03:18	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.1		4.99	mg/Kg			03/06/23 20:14	1

Client Sample ID: SS07

Lab Sample ID: 890-4216-7

Date Collected: 02/28/23 10:25

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202	mg/Kg		03/09/23 15:25	03/14/23 02:02	1
Toluene	<0.00202	U	0.00202	mg/Kg		03/09/23 15:25	03/14/23 02:02	1
Ethylbenzene	<0.00202	U	0.00202	mg/Kg		03/09/23 15:25	03/14/23 02:02	1
m-Xylene & p-Xylene	<0.00404	U	0.00404	mg/Kg		03/09/23 15:25	03/14/23 02:02	1
o-Xylene	<0.00202	U	0.00202	mg/Kg		03/09/23 15:25	03/14/23 02:02	1
Xylenes, Total	<0.00404	U	0.00404	mg/Kg		03/09/23 15:25	03/14/23 02:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130	03/09/23 15:25	03/14/23 02:02	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS07

Lab Sample ID: 890-4216-7

Date Collected: 02/28/23 10:25

Matrix: Solid

Date Received: 03/01/23 15:37

Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	101		70 - 130	03/09/23 15:25	03/14/23 02:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404	mg/Kg			03/14/23 18:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	6500		50.0	mg/Kg			03/06/23 13:36	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		03/04/23 09:43	03/06/23 03:38	1
Diesel Range Organics (Over C10-C28)	6500		50.0	mg/Kg		03/04/23 09:43	03/06/23 03:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/06/23 03:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	123		70 - 130			03/04/23 09:43	03/06/23 03:38	1
o-Terphenyl	126		70 - 130			03/04/23 09:43	03/06/23 03:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	289		5.02	mg/Kg			03/06/23 20:20	1

Surrogate Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4212-A-21-G MS	Matrix Spike	118	97
890-4212-A-21-H MSD	Matrix Spike Duplicate	106	99
890-4216-1	SS01	117	86
890-4216-2	SS02	125	108
890-4216-3	SS03	121	102
890-4216-4	SS04	49 S1-	98
890-4216-5	SS05	48 S1-	73
890-4216-6	SS06	46 S1-	94
890-4216-7	SS07	118	101
LCS 880-48243/1-A	Lab Control Sample	103	100
LCSD 880-48243/2-A	Lab Control Sample Dup	101	97
MB 880-48243/5-A	Method Blank	88	86
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4205-A-101-B MS	Matrix Spike	136 S1+	120
890-4205-A-101-C MSD	Matrix Spike Duplicate	151 S1+	134 S1+
890-4216-1	SS01	115	113
890-4216-2	SS02	110	105
890-4216-3	SS03	109	104
890-4216-4	SS04	110	105
890-4216-5	SS05	111	110
890-4216-6	SS06	123	121
890-4216-7	SS07	123	126
LCS 880-47810/2-A	Lab Control Sample	106	99
LCSD 880-47810/3-A	Lab Control Sample Dup	115	108
MB 880-47810/1-A	Method Blank	151 S1+	150 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-48243/5-A

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 48243

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/13/23 19:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/13/23 19:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/13/23 19:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		03/09/23 15:25	03/13/23 19:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/09/23 15:25	03/13/23 19:06	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		03/09/23 15:25	03/13/23 19:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		70 - 130	03/09/23 15:25	03/13/23 19:06	1
1,4-Difluorobenzene (Surr)	86		70 - 130	03/09/23 15:25	03/13/23 19:06	1

Lab Sample ID: LCS 880-48243/1-A

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 48243

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09888		mg/Kg		99	70 - 130
Toluene	0.100	0.09474		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09902		mg/Kg		99	70 - 130
m-Xylene & p-Xylene	0.200	0.2042		mg/Kg		102	70 - 130
o-Xylene	0.100	0.1022		mg/Kg		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: LCSD 880-48243/2-A

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 48243

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzene	0.100	0.09449		mg/Kg		94	70 - 130	5	35
Toluene	0.100	0.09481		mg/Kg		95	70 - 130	0	35
Ethylbenzene	0.100	0.09765		mg/Kg		98	70 - 130	1	35
m-Xylene & p-Xylene	0.200	0.1991		mg/Kg		100	70 - 130	3	35
o-Xylene	0.100	0.09961		mg/Kg		100	70 - 130	3	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-4212-A-21-G MS

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 48243

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1	0.0998	0.06613	F1	mg/Kg		66	70 - 130
Toluene	<0.00201	U	0.0998	0.07294		mg/Kg		72	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

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

Lab Sample ID: 890-4212-A-21-G MS

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 48243

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.0998	0.08285		mg/Kg		82	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1722		mg/Kg		86	70 - 130
o-Xylene	<0.00201	U	0.0998	0.08693		mg/Kg		87	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	118		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: 890-4212-A-21-H MSD

Matrix: Solid

Analysis Batch: 48520

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 48243

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	0.08115		mg/Kg		81	70 - 130	20	35
Toluene	<0.00201	U	0.0990	0.08035		mg/Kg		80	70 - 130	10	35
Ethylbenzene	<0.00201	U	0.0990	0.08250		mg/Kg		83	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1702		mg/Kg		85	70 - 130	1	35
o-Xylene	<0.00201	U	0.0990	0.08525		mg/Kg		86	70 - 130	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

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

Lab Sample ID: MB 880-47810/1-A

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47810

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/05/23 19:38	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/05/23 19:38	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/04/23 09:43	03/05/23 19:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	151	S1+	70 - 130	03/04/23 09:43	03/05/23 19:38	1
o-Terphenyl	150	S1+	70 - 130	03/04/23 09:43	03/05/23 19:38	1

Lab Sample ID: LCS 880-47810/2-A

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	887.7		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	998.7		mg/Kg		100	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

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

Lab Sample ID: LCS 880-47810/2-A

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47810

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

Lab Sample ID: LCSD 880-47810/3-A

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47810

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1009		mg/Kg		101	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	1000	1082		mg/Kg		108	70 - 130	8	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	115		70 - 130
o-Terphenyl	108		70 - 130

Lab Sample ID: 890-4205-A-101-B MS

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47810

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1158		mg/Kg		114	70 - 130
Diesel Range Organics (Over C10-C28)	84.7		998	990.1		mg/Kg		91	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	136	S1+	70 - 130
o-Terphenyl	120		70 - 130

Lab Sample ID: 890-4205-A-101-C MSD

Matrix: Solid

Analysis Batch: 47832

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47810

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1269		mg/Kg		125	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	84.7		999	1104		mg/Kg		102	70 - 130	11	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	151	S1+	70 - 130
o-Terphenyl	134	S1+	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47840/1-A

Matrix: Solid

Analysis Batch: 47996

Client Sample ID: Method Blank

Prep Type: Soluble

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

Lab Sample ID: LCS 880-47840/2-A

Matrix: Solid

Analysis Batch: 47996

Client Sample ID: Lab Control Sample

Prep Type: Soluble

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

Lab Sample ID: LCSD 880-47840/3-A

Matrix: Solid

Analysis Batch: 47996

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	241.0		mg/Kg		96	90 - 110	0	20

Lab Sample ID: 890-4216-1 MS

Matrix: Solid

Analysis Batch: 47996

Client Sample ID: SS01

Prep Type: Soluble

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

Lab Sample ID: 890-4216-1 MSD

Matrix: Solid

Analysis Batch: 47996

Client Sample ID: SS01

Prep Type: Soluble

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

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QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

GC VOA

Prep Batch: 48243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	5035	
890-4216-2	SS02	Total/NA	Solid	5035	
890-4216-3	SS03	Total/NA	Solid	5035	
890-4216-4	SS04	Total/NA	Solid	5035	
890-4216-5	SS05	Total/NA	Solid	5035	
890-4216-6	SS06	Total/NA	Solid	5035	
890-4216-7	SS07	Total/NA	Solid	5035	
MB 880-48243/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-48243/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-48243/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4212-A-21-G MS	Matrix Spike	Total/NA	Solid	5035	
890-4212-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 48520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	8021B	48243
890-4216-2	SS02	Total/NA	Solid	8021B	48243
890-4216-3	SS03	Total/NA	Solid	8021B	48243
890-4216-4	SS04	Total/NA	Solid	8021B	48243
890-4216-5	SS05	Total/NA	Solid	8021B	48243
890-4216-6	SS06	Total/NA	Solid	8021B	48243
890-4216-7	SS07	Total/NA	Solid	8021B	48243
MB 880-48243/5-A	Method Blank	Total/NA	Solid	8021B	48243
LCS 880-48243/1-A	Lab Control Sample	Total/NA	Solid	8021B	48243
LCSD 880-48243/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	48243
890-4212-A-21-G MS	Matrix Spike	Total/NA	Solid	8021B	48243
890-4212-A-21-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	48243

Analysis Batch: 48629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	Total BTEX	
890-4216-2	SS02	Total/NA	Solid	Total BTEX	
890-4216-3	SS03	Total/NA	Solid	Total BTEX	
890-4216-4	SS04	Total/NA	Solid	Total BTEX	
890-4216-5	SS05	Total/NA	Solid	Total BTEX	
890-4216-6	SS06	Total/NA	Solid	Total BTEX	
890-4216-7	SS07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 47810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	8015NM Prep	
890-4216-2	SS02	Total/NA	Solid	8015NM Prep	
890-4216-3	SS03	Total/NA	Solid	8015NM Prep	
890-4216-4	SS04	Total/NA	Solid	8015NM Prep	
890-4216-5	SS05	Total/NA	Solid	8015NM Prep	
890-4216-6	SS06	Total/NA	Solid	8015NM Prep	
890-4216-7	SS07	Total/NA	Solid	8015NM Prep	
MB 880-47810/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47810/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

GC Semi VOA (Continued)

Prep Batch: 47810 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-47810/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4205-A-101-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4205-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	8015B NM	47810
890-4216-2	SS02	Total/NA	Solid	8015B NM	47810
890-4216-3	SS03	Total/NA	Solid	8015B NM	47810
890-4216-4	SS04	Total/NA	Solid	8015B NM	47810
890-4216-5	SS05	Total/NA	Solid	8015B NM	47810
890-4216-6	SS06	Total/NA	Solid	8015B NM	47810
890-4216-7	SS07	Total/NA	Solid	8015B NM	47810
MB 880-47810/1-A	Method Blank	Total/NA	Solid	8015B NM	47810
LCS 880-47810/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47810
LCSD 880-47810/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47810
890-4205-A-101-B MS	Matrix Spike	Total/NA	Solid	8015B NM	47810
890-4205-A-101-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47810

Analysis Batch: 47938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Total/NA	Solid	8015 NM	
890-4216-2	SS02	Total/NA	Solid	8015 NM	
890-4216-3	SS03	Total/NA	Solid	8015 NM	
890-4216-4	SS04	Total/NA	Solid	8015 NM	
890-4216-5	SS05	Total/NA	Solid	8015 NM	
890-4216-6	SS06	Total/NA	Solid	8015 NM	
890-4216-7	SS07	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 47840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Soluble	Solid	DI Leach	
890-4216-2	SS02	Soluble	Solid	DI Leach	
890-4216-3	SS03	Soluble	Solid	DI Leach	
890-4216-4	SS04	Soluble	Solid	DI Leach	
890-4216-5	SS05	Soluble	Solid	DI Leach	
890-4216-6	SS06	Soluble	Solid	DI Leach	
890-4216-7	SS07	Soluble	Solid	DI Leach	
MB 880-47840/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47840/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47840/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4216-1 MS	SS01	Soluble	Solid	DI Leach	
890-4216-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 47996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-1	SS01	Soluble	Solid	300.0	47840
890-4216-2	SS02	Soluble	Solid	300.0	47840
890-4216-3	SS03	Soluble	Solid	300.0	47840

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QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

HPLC/IC (Continued)

Analysis Batch: 47996 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4216-4	SS04	Soluble	Solid	300.0	47840
890-4216-5	SS05	Soluble	Solid	300.0	47840
890-4216-6	SS06	Soluble	Solid	300.0	47840
890-4216-7	SS07	Soluble	Solid	300.0	47840
MB 880-47840/1-A	Method Blank	Soluble	Solid	300.0	47840
LCS 880-47840/2-A	Lab Control Sample	Soluble	Solid	300.0	47840
LCSD 880-47840/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47840
890-4216-1 MS	SS01	Soluble	Solid	300.0	47840
890-4216-1 MSD	SS01	Soluble	Solid	300.0	47840

Lab Chronicle

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS01
Date Collected: 02/28/23 09:30
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4216-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/13/23 23:58	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 01:35	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 19:18	CH	EET MID

Client Sample ID: SS02
Date Collected: 02/28/23 09:35
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4216-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 00:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 01:56	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 19:37	CH	EET MID

Client Sample ID: SS03
Date Collected: 02/28/23 09:40
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4216-3
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			5.01 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 00:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 02:17	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 19:43	CH	EET MID

Client Sample ID: SS04
Date Collected: 02/28/23 09:45
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4216-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 01:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS04**Lab Sample ID: 890-4216-4****Date Collected: 02/28/23 09:45****Matrix: Solid****Date Received: 03/01/23 15:37**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 02:37	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 19:49	CH	EET MID

Client Sample ID: SS05**Lab Sample ID: 890-4216-5****Date Collected: 02/28/23 10:15****Matrix: Solid****Date Received: 03/01/23 15:37**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 01:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 02:58	SM	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 19:55	CH	EET MID

Client Sample ID: SS06**Lab Sample ID: 890-4216-6****Date Collected: 02/28/23 10:20****Matrix: Solid****Date Received: 03/01/23 15:37**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 01:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 03:18	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 20:14	CH	EET MID

Client Sample ID: SS07**Lab Sample ID: 890-4216-7****Date Collected: 02/28/23 10:25****Matrix: Solid****Date Received: 03/01/23 15:37**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	48243	03/09/23 15:25	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	48520	03/14/23 02:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			48629	03/14/23 18:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47938	03/06/23 13:36	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47810	03/04/23 09:43	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47832	03/06/23 03:38	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Client Sample ID: SS07
Date Collected: 02/28/23 10:25
Date Received: 03/01/23 15:37

Lab Sample ID: 890-4216-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	47840	03/05/23 14:43	CH	EET MID
Soluble	Analysis	300.0		1			47996	03/06/23 20:20	CH	EET MID

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
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Method Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

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: Zapata BQZ State Com 001H

Job ID: 890-4216-1
SDG: 03D2024163

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4216-1	SS01	Solid	02/28/23 09:30	03/01/23 15:37	0.5'
890-4216-2	SS02	Solid	02/28/23 09:35	03/01/23 15:37	0.5'
890-4216-3	SS03	Solid	02/28/23 09:40	03/01/23 15:37	0.5'
890-4216-4	SS04	Solid	02/28/23 09:45	03/01/23 15:37	0.5'
890-4216-5	SS05	Solid	02/28/23 10:15	03/01/23 15:37	0.5'
890-4216-6	SS06	Solid	02/28/23 10:20	03/01/23 15:37	0.5'
890-4216-7	SS07	Solid	02/28/23 10:25	03/01/23 15:37	0.5'

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Environment Testing
Xenco

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

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Hadlie Green	Bill to: (if different)	Hadlie Green
Company Name:	Ensolum, LLC	Company Name:	Ensolum, LLC
Address:	601 N Marientfeld St Suite 400	Address:	601 N Marientfeld St Suite 400
City, State ZIP:	Midland, TX 79701	City, State ZIP:	Midland, TX 79701
Phone:	432-557-8895	Email:	hgreen@ensolum.com

Program: <input type="checkbox"/> UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____

Project Name:	Zapata BQZ State Com 001H	Turn Around	<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush	Pres. Code	
Project Number:	03D2024163	Due Date:			
Project Location:	32.0658, -103.6467	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Peter Van Patten				
PO #:					
SAMPLE RECEIPT	Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID:	Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Parameters	
Samples Received Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor:			
Cooler Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Temperature Reading:			
Sample Custody Seals:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temperature:			
Total Containers:					



890-4216 Chain of Custody

Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLORIDES (mg/L)	TPH (8015)	BTEX (8021)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
SS01		Soil	2/28/2023	930	0.5'	Comp	1	X	X	X			
SS02		Soil	2/28/2023	935	0.5'	Comp	1	X	X	X			
SS03		Soil	2/28/2023	940	0.5'	Comp	1	X	X	X			
SS04		Soil	2/28/2023	945	0.5'	Comp	1	X	X	X			
SS05		Soil	2/28/2023	1015	0.5'	Comp	1	X	X	X			
SS06		Soil	2/28/2023	1020	0.5'	Comp	1	X	X	X			
SS07		Soil	2/28/2023	1025	0.5'	Comp	1	X	X	X			

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 SiO₂ Na Sr Ti 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 Ti 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 \$35.00 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
<i>Peter Van Patten</i>	<i>Amanda Steff</i>	3-1-23 15:37			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4216-1

SDG Number: 03D2024163

Login Number: 4216

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4216-1

SDG Number: 03D2024163

Login Number: 4216

List Number: 2

Creator: Johnson, Allison

List Source: Eurofins Midland

List Creation: 03/04/23 09:47 AM

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



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Hadlie Green

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 4/6/2023 10:23:21 AM

JOB DESCRIPTION

Zapata BQZ State Com 001H

SDG NUMBER 03D2024163

JOB NUMBER

880-26432-1

Eurofins Midland
1211 W. Florida Ave
Midland TX 79701

Eurofins Midland**Job Notes**

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

Authorization

Generated
4/6/2023 10:23:21 AM

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

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Laboratory Job ID: 880-26432-1
SDG: 03D2024163

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Definitions/Glossary

Client: Ensolum

Job ID: 880-26432-1

Project/Site: Zapata BQZ State Com 001H

SDG: 03D2024163

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Job ID: 880-26432-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-26432-1

Receipt

The samples were received on 3/27/2023 1:13 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.2°C

GC VOA

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

GC Semi VOA

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

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

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

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: SS05A

Lab Sample ID: 880-26432-1

Date Collected: 03/27/23 09:15

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 1.0'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 13:53	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 13:53	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 13:53	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		03/30/23 10:55	04/03/23 13:53	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 13:53	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		03/30/23 10:55	04/03/23 13:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		70 - 130	03/30/23 10:55	04/03/23 13:53	1
1,4-Difluorobenzene (Surr)	90		70 - 130	03/30/23 10:55	04/03/23 13:53	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399	mg/Kg			04/03/23 16:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/03/23 10:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:24	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:24	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	98		70 - 130	03/31/23 08:54	03/31/23 23:24	1
o-Terphenyl	75		70 - 130	03/31/23 08:54	03/31/23 23:24	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	86.7		4.98	mg/Kg			03/31/23 22:20	1

Client Sample ID: FS01

Lab Sample ID: 880-26432-2

Date Collected: 03/27/23 09:35

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201	mg/Kg		03/30/23 10:55	04/03/23 14:19	1
Toluene	<0.00201	U	0.00201	mg/Kg		03/30/23 10:55	04/03/23 14:19	1
Ethylbenzene	<0.00201	U	0.00201	mg/Kg		03/30/23 10:55	04/03/23 14:19	1
m-Xylene & p-Xylene	<0.00402	U	0.00402	mg/Kg		03/30/23 10:55	04/03/23 14:19	1
o-Xylene	<0.00201	U	0.00201	mg/Kg		03/30/23 10:55	04/03/23 14:19	1
Xylenes, Total	<0.00402	U	0.00402	mg/Kg		03/30/23 10:55	04/03/23 14:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	03/30/23 10:55	04/03/23 14:19	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: FS01

Lab Sample ID: 880-26432-2

Date Collected: 03/27/23 09:35

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 0.5'

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	94		70 - 130	03/30/23 10:55	04/03/23 14:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			04/03/23 16:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			04/03/23 10:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/31/23 08:54	03/31/23 23:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U *	50.0	mg/Kg		03/31/23 08:54	03/31/23 23:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/31/23 08:54	03/31/23 23:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			03/31/23 08:54	03/31/23 23:45	1
o-Terphenyl	74		70 - 130			03/31/23 08:54	03/31/23 23:45	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	111		4.97	mg/Kg			04/05/23 20:35	1

Client Sample ID: FS02

Lab Sample ID: 880-26432-3

Date Collected: 03/27/23 09:40

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 14:45	1
Toluene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 14:45	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 14:45	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		03/30/23 10:55	04/03/23 14:45	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		03/30/23 10:55	04/03/23 14:45	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		03/30/23 10:55	04/03/23 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130	03/30/23 10:55	04/03/23 14:45	1
1,4-Difluorobenzene (Surr)	90		70 - 130	03/30/23 10:55	04/03/23 14:45	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401	mg/Kg			04/03/23 16:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/03/23 10:59	1

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Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: FS02

Lab Sample ID: 880-26432-3

Date Collected: 03/27/23 09:40

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 0.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/31/23 08:54	04/01/23 00:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		03/31/23 08:54	04/01/23 00:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/31/23 08:54	04/01/23 00:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130			03/31/23 08:54	04/01/23 00:06	1
o-Terphenyl	72		70 - 130			03/31/23 08:54	04/01/23 00:06	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	126		5.04	mg/Kg			04/05/23 20:50	1

Client Sample ID: FS03

Lab Sample ID: 880-26432-4

Date Collected: 03/27/23 10:10

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
Toluene	<0.00198	U	0.00198	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
Ethylbenzene	<0.00198	U	0.00198	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
m-Xylene & p-Xylene	<0.00396	U	0.00396	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
o-Xylene	<0.00198	U	0.00198	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
Xylenes, Total	<0.00396	U	0.00396	mg/Kg		03/30/23 10:55	04/03/23 15:11	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130			03/30/23 10:55	04/03/23 15:11	1
1,4-Difluorobenzene (Surr)	95		70 - 130			03/30/23 10:55	04/03/23 15:11	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			04/03/23 16:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/03/23 10:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 21:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		03/31/23 08:54	03/31/23 21:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 21:59	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130			03/31/23 08:54	03/31/23 21:59	1
o-Terphenyl	78		70 - 130			03/31/23 08:54	03/31/23 21:59	1

Eurofins Midland

Client Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: FS03

Lab Sample ID: 880-26432-4

Date Collected: 03/27/23 10:10

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 1.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	164		5.03	mg/Kg			04/05/23 20:54	1

Client Sample ID: FS04

Lab Sample ID: 880-26432-5

Date Collected: 03/27/23 10:15

Matrix: Solid

Date Received: 03/27/23 13:13

Sample Depth: 1.5'

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
Toluene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		03/30/23 10:55	04/03/23 15:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	121		70 - 130			03/30/23 10:55	04/03/23 15:37	1
1,4-Difluorobenzene (Surr)	87		70 - 130			03/30/23 10:55	04/03/23 15:37	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			04/03/23 16:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			04/03/23 10:59	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:02	1
Diesel Range Organics (Over C10-C28)	<49.9	U *	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:02	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		03/31/23 08:54	03/31/23 23:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130			03/31/23 08:54	03/31/23 23:02	1
o-Terphenyl	76		70 - 130			03/31/23 08:54	03/31/23 23:02	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	86.2		4.98	mg/Kg			04/05/23 20:59	1

Eurofins Midland

Surrogate Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-26432-1	SS05A	109	90
880-26432-2	FS01	117	94
880-26432-3	FS02	122	90
880-26432-4	FS03	119	95
880-26432-5	FS04	121	87
LCS 880-49926/1-A	Lab Control Sample	87	85
LCSD 880-49926/2-A	Lab Control Sample Dup	91	87
MB 880-49926/5-A	Method Blank	71	86

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
880-26432-1	SS05A	98	75
880-26432-2	FS01	96	74
880-26432-3	FS02	96	72
880-26432-4	FS03	101	78
880-26432-4 MS	FS03	103	68 S1-
880-26432-4 MSD	FS03	101	69 S1-
880-26432-5	FS04	100	76
LCS 880-50003/2-A	Lab Control Sample	81	61 S1-
LCSD 880-50003/3-A	Lab Control Sample Dup	71	56 S1-
MB 880-50003/1-A	Method Blank	113	89

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49926/5-A

Matrix: Solid

Analysis Batch: 50120

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49926

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

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

Lab Sample ID: LCS 880-49926/1-A

Matrix: Solid

Analysis Batch: 50120

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49926

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

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

Lab Sample ID: LCSD 880-49926/2-A

Matrix: Solid

Analysis Batch: 50120

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49926

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

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

Eurofins Midland

QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

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

Lab Sample ID: MB 880-50003/1-A

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50003

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		03/31/23 08:54	03/31/23 20:55	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		03/31/23 08:54	03/31/23 20:55	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		03/31/23 08:54	03/31/23 20:55	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1-Chlorooctane	113		70 - 130			03/31/23 08:54	03/31/23 20:55	1
o-Terphenyl	89		70 - 130			03/31/23 08:54	03/31/23 20:55	1

Lab Sample ID: LCS 880-50003/2-A

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50003

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1116		mg/Kg		112	70 - 130
Diesel Range Organics (Over C10-C28)	1000	693.4	*-	mg/Kg		69	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	81		70 - 130				
o-Terphenyl	61	S1-	70 - 130				

Lab Sample ID: LCSD 880-50003/3-A

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50003

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	964.7		mg/Kg		96	70 - 130	15	20
Diesel Range Organics (Over C10-C28)	1000	614.8	*-	mg/Kg		61	70 - 130	12	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	71		70 - 130						
o-Terphenyl	56	S1-	70 - 130						

Lab Sample ID: 880-26432-4 MS

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 50003

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1116		mg/Kg		109	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U *-	997	849.7		mg/Kg		85	70 - 130

Eurofins Midland

QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

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

Lab Sample ID: 880-26432-4 MS

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 50003

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	103		70 - 130
o-Terphenyl	68	S1-	70 - 130

Lab Sample ID: 880-26432-4 MSD

Matrix: Solid

Analysis Batch: 49993

Client Sample ID: FS03

Prep Type: Total/NA

Prep Batch: 50003

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1069		mg/Kg		104	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<49.9	U *	998	855.9		mg/Kg		86	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	69	S1-	70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50007/1-A

Matrix: Solid

Analysis Batch: 50061

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			03/31/23 20:04	1

Lab Sample ID: LCS 880-50007/2-A

Matrix: Solid

Analysis Batch: 50061

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	243.8		mg/Kg		98	90 - 110

Lab Sample ID: LCSD 880-50007/3-A

Matrix: Solid

Analysis Batch: 50061

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	242.3		mg/Kg		97	90 - 110	1	20

Lab Sample ID: MB 880-50171/1-A

Matrix: Solid

Analysis Batch: 50436

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00	mg/Kg			04/05/23 20:21	1

Eurofins Midland

QC Sample Results

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-50171/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50436											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.0		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-50171/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50436											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	254.2		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-26432-2 MS				Client Sample ID: FS01							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50436											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	111		249	382.4		mg/Kg		109	90 - 110		

Lab Sample ID: 880-26432-2 MSD				Client Sample ID: FS01							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 50436											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	111		249	382.3		mg/Kg		109	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

GC VOA

Prep Batch: 49926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	5035	
880-26432-2	FS01	Total/NA	Solid	5035	
880-26432-3	FS02	Total/NA	Solid	5035	
880-26432-4	FS03	Total/NA	Solid	5035	
880-26432-5	FS04	Total/NA	Solid	5035	
MB 880-49926/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-49926/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-49926/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 50120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	8021B	49926
880-26432-2	FS01	Total/NA	Solid	8021B	49926
880-26432-3	FS02	Total/NA	Solid	8021B	49926
880-26432-4	FS03	Total/NA	Solid	8021B	49926
880-26432-5	FS04	Total/NA	Solid	8021B	49926
MB 880-49926/5-A	Method Blank	Total/NA	Solid	8021B	49926
LCS 880-49926/1-A	Lab Control Sample	Total/NA	Solid	8021B	49926
LCSD 880-49926/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	49926

Analysis Batch: 50256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	Total BTEX	
880-26432-2	FS01	Total/NA	Solid	Total BTEX	
880-26432-3	FS02	Total/NA	Solid	Total BTEX	
880-26432-4	FS03	Total/NA	Solid	Total BTEX	
880-26432-5	FS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 49993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	8015B NM	50003
880-26432-2	FS01	Total/NA	Solid	8015B NM	50003
880-26432-3	FS02	Total/NA	Solid	8015B NM	50003
880-26432-4	FS03	Total/NA	Solid	8015B NM	50003
880-26432-5	FS04	Total/NA	Solid	8015B NM	50003
MB 880-50003/1-A	Method Blank	Total/NA	Solid	8015B NM	50003
LCS 880-50003/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50003
LCSD 880-50003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50003
880-26432-4 MS	FS03	Total/NA	Solid	8015B NM	50003
880-26432-4 MSD	FS03	Total/NA	Solid	8015B NM	50003

Prep Batch: 50003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	8015NM Prep	
880-26432-2	FS01	Total/NA	Solid	8015NM Prep	
880-26432-3	FS02	Total/NA	Solid	8015NM Prep	
880-26432-4	FS03	Total/NA	Solid	8015NM Prep	
880-26432-5	FS04	Total/NA	Solid	8015NM Prep	
MB 880-50003/1-A	Method Blank	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

GC Semi VOA (Continued)

Prep Batch: 50003 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-50003/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50003/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-26432-4 MS	FS03	Total/NA	Solid	8015NM Prep	
880-26432-4 MSD	FS03	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Total/NA	Solid	8015 NM	
880-26432-2	FS01	Total/NA	Solid	8015 NM	
880-26432-3	FS02	Total/NA	Solid	8015 NM	
880-26432-4	FS03	Total/NA	Solid	8015 NM	
880-26432-5	FS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Soluble	Solid	DI Leach	
MB 880-50007/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50007/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50007/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 50061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-1	SS05A	Soluble	Solid	300.0	50007
MB 880-50007/1-A	Method Blank	Soluble	Solid	300.0	50007
LCS 880-50007/2-A	Lab Control Sample	Soluble	Solid	300.0	50007
LCSD 880-50007/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50007

Leach Batch: 50171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-2	FS01	Soluble	Solid	DI Leach	
880-26432-3	FS02	Soluble	Solid	DI Leach	
880-26432-4	FS03	Soluble	Solid	DI Leach	
880-26432-5	FS04	Soluble	Solid	DI Leach	
MB 880-50171/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50171/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50171/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-26432-2 MS	FS01	Soluble	Solid	DI Leach	
880-26432-2 MSD	FS01	Soluble	Solid	DI Leach	

Analysis Batch: 50436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-2	FS01	Soluble	Solid	300.0	50171
880-26432-3	FS02	Soluble	Solid	300.0	50171
880-26432-4	FS03	Soluble	Solid	300.0	50171
880-26432-5	FS04	Soluble	Solid	300.0	50171
MB 880-50171/1-A	Method Blank	Soluble	Solid	300.0	50171
LCS 880-50171/2-A	Lab Control Sample	Soluble	Solid	300.0	50171
LCSD 880-50171/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50171
880-26432-2 MS	FS01	Soluble	Solid	300.0	50171

Eurofins Midland

QC Association Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

HPLC/IC (Continued)

Analysis Batch: 50436 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-26432-2 MSD	FS01	Soluble	Solid	300.0	50171

- 1
- 2
- 3
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- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: SS05A

Lab Sample ID: 880-26432-1

Date Collected: 03/27/23 09:15

Matrix: Solid

Date Received: 03/27/23 13:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 13:53
Total/NA	Analysis	Total BTEX		1	50256	SM	EET MID	04/03/23 16:32
Total/NA	Analysis	8015 NM		1	50161	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	03/31/23 23:24
Soluble	Leach	DI Leach			50007	KS	EET MID	03/31/23 09:22
Soluble	Analysis	300.0		1	50061	SMC	EET MID	03/31/23 22:20

Client Sample ID: FS01

Lab Sample ID: 880-26432-2

Date Collected: 03/27/23 09:35

Matrix: Solid

Date Received: 03/27/23 13:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 14:19
Total/NA	Analysis	Total BTEX		1	50256	SM	EET MID	04/03/23 16:32
Total/NA	Analysis	8015 NM		1	50161	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	03/31/23 23:45
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 20:35

Client Sample ID: FS02

Lab Sample ID: 880-26432-3

Date Collected: 03/27/23 09:40

Matrix: Solid

Date Received: 03/27/23 13:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 14:45
Total/NA	Analysis	Total BTEX		1	50256	SM	EET MID	04/03/23 16:32
Total/NA	Analysis	8015 NM		1	50161	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	04/01/23 00:06
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 20:50

Client Sample ID: FS03

Lab Sample ID: 880-26432-4

Date Collected: 03/27/23 10:10

Matrix: Solid

Date Received: 03/27/23 13:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 15:11
Total/NA	Analysis	Total BTEX		1	50256	SM	EET MID	04/03/23 16:32

Eurofins Midland

Lab Chronicle

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Client Sample ID: FS03
Date Collected: 03/27/23 10:10
Date Received: 03/27/23 13:13

Lab Sample ID: 880-26432-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 NM		1	50161	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	03/31/23 21:59
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 20:54

Client Sample ID: FS04
Date Collected: 03/27/23 10:15
Date Received: 03/27/23 13:13

Lab Sample ID: 880-26432-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			49926	MNR	EET MID	03/30/23 10:55
Total/NA	Analysis	8021B		1	50120	MNR	EET MID	04/03/23 15:37
Total/NA	Analysis	Total BTEX		1	50256	SM	EET MID	04/03/23 16:32
Total/NA	Analysis	8015 NM		1	50161	SM	EET MID	04/03/23 10:59
Total/NA	Prep	8015NM Prep			50003	AJ	EET MID	03/31/23 08:54
Total/NA	Analysis	8015B NM		1	49993	SM	EET MID	03/31/23 23:02
Soluble	Leach	DI Leach			50171	KS	EET MID	04/03/23 11:17
Soluble	Analysis	300.0		1	50436	SMC	EET MID	04/05/23 20:59

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Laboratory: Eurofins Midland

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

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

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

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

- 1
- 2
- 3
- 4
- 5
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- 11
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- 13
- 14

Method Summary

Client: Ensolum
Project/Site: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

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: Zapata BQZ State Com 001H

Job ID: 880-26432-1
SDG: 03D2024163

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-26432-1	SS05A	Solid	03/27/23 09:15	03/27/23 13:13	1.0'
880-26432-2	FS01	Solid	03/27/23 09:35	03/27/23 13:13	0.5'
880-26432-3	FS02	Solid	03/27/23 09:40	03/27/23 13:13	0.5'
880-26432-4	FS03	Solid	03/27/23 10:10	03/27/23 13:13	1.5'
880-26432-5	FS04	Solid	03/27/23 10:15	03/27/23 13:13	1.5'

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- 12
- 13
- 14



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) 565-3443 Lubbock TX (806) 794-1296
Hobbs NM (575) 392-7550 Carlsbad NM (575) 988-3199



880-26432 Chain of Custody

www.xenco.com

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Project Manager	Hadlie Green	Bill to (if different)	Hadlie Green
Company Name	Ensolum, LLC	Company Name	Ensolum LLC
Address	601 N Marientfeld St Suite 400	Address	601 N Marientfeld St Suite 400
City, State ZIP	Midland TX 79701	City, State ZIP	Midland, TX 79701
Phone	432-557-8895	Email	hgreen@ensolum.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other	

[illegible]

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 Ti 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 Ti U		Hg 1631 / 2451 / 7470 / 7471	
<p>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</p>									
Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time				
1 <i>Per De Tatt</i>	<i>Amanda Stuf</i>	3/27/03 1313							
3		4							
5		6							

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 880-26432-1

SDG Number: 03D2024163

Login Number: 26432

List Number: 1

Creator: Kramer, Jessica

List Source: Eurofins Midland

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



APPENDIX D

Final C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NAPP2305140243
District RP	
Facility ID	fAPP2203534051
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Charles Beauvais	Contact Telephone	(575) 988-2043
Contact email	Charles.R.Beauvais@ConocoPhillips.com	Incident # (assigned by OCD)	NAPP2305140243
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.0658 Longitude -103.6467
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Zapata BQZ State Com 001H	Site Type	Tank Battery
Date Release Discovered	February 2, 2023	API# (if applicable)	30-025-40001

Unit Letter	Section	Township	Range	County
N	02	26S	32E	Lea

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls) 0.19	Volume Recovered (bbls) 0
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a frozen line that was blocking flow resulting in a flare fire. No fluid was recovered due to the fire burning off any standing fluid. The release resulted in a flare fire on the pad.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305140243
District RP	
Facility ID	fAPP2203534051
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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The release involved a fire.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Immediate notice was given by Charles Beauvais on February 11, 2023 at 1:57 PM to ocd.enviro@state.nm.us.	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Brittany N. Esparza	Title: Environmental Technician
Signature: 	Date: 2/20/2023
email: Brittany.Esparza@ConocoPhillips.com	Telephone: (432) 221-0398
<u>OCD Only</u>	
Received by: Jocelyn Harimon	Date: 02/20/2023

Asset Area:	Delaware East	
Release Date & Time:	2/2/23 9am	NAPP2305140243
Release Type:	Oil	
Provide any known details about the event:	see attached description	

Spill Calculation - Subsurface Spill - Rectangle

Was the release on pad or off-pad?		See reference table below				
Has it rained at least a half inch in the last 24 hours?		See reference table below				
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Depth (in.)	Soil Spilled-Fluid Saturation	Estimated volume of each area (bbl.)	Total Estimated Volume of Spill (bbl.)
Rectangle A	20.0	4.0	0.20	8.00%	0.237	0.019
Rectangle B					0.000	0.000
Rectangle C					0.000	0.000
Rectangle D					0.000	0.000
Rectangle E					0.000	0.000
Rectangle F					0.000	0.000
Rectangle G					0.000	0.000
Rectangle H					0.000	0.000
Rectangle I					0.000	0.000
Total Volume Release:						0.019

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District IV
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 188172

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 188172
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

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

Incident ID	NAPP2305140243
District RP	
Facility ID	fAPP2203534051
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2305140243
District RP	
Facility ID	fAPP2203534051
Application ID	

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

Printed Name: __Jacob Laird__ Title: _Environmental Engineer__

Signature: ____*Jacob Laird*____ Date: ____4/26/2023____

email: __Jacob.Laird@conocophillips.com__ Telephone: __575-703-5482__

OCD Only

Received by: ____Jocelyn Harimon____ Date: ____05/01/2023____

Incident ID	NAPP2305140243
District RP	
Facility ID	fAPP2203534051
Application ID	

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: __Jacob Laird__ Title: __Environmental Engineer__
Signature: __*Jacob Laird*__ Date: __4/26/2023__
email: __Jacob.Laird@conocophillips.com__ Telephone: __575-703-5482__

OCD Only

Received by: __Jocelyn Harimon__ Date: __05/01/2023__

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

Closure Approved by: __*Michael Buchanan*__ Date: __05/15/2023__

Printed Name: __Mike Buchanan__ Title: __Environmental Specialist__



APPENDIX E

NMOCD Notifications

From: [Enviro, OCD, EMNRD](#)
To: [Hadlie Green](#)
Cc: [Bratcher, Michael, EMNRD](#); [Nobui, Jennifer, EMNRD](#)
Subject: RE: [EXTERNAL] COP - Sampling Notification (Week of 3/27/2023)
Date: Thursday, March 23, 2023 12:31:21 PM
Attachments: [image005.jpg](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

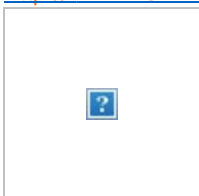
[**EXTERNAL EMAIL**]

Hadlie,

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

JH

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
<http://www.emnrd.nm.gov>



From: Hadlie Green <hgreen@ensolum.com>
Sent: Thursday, March 23, 2023 10:20 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Kalei Jennings <kjennings@ensolum.com>
Subject: [EXTERNAL] COP - Sampling Notification (Week of 3/27/2023)

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

All,

ConocoPhillips Company (COP) plans to complete sampling activities at the following site the week of March 27, 2023.

- Zapata BQZ State Com 001H / NAPP2305140243
 - Sampling Date: 3/27/2023 @ 10:00 AM MST
- Jacinto Federal Com 040H / NAPP2236140625

- Sampling Date: 3/28/2023 @ 10:00 AM MST

Thank you,



Hadlie Green

Project Manager

432-557-8895

hgreen@ensolum.com

Ensolum, LLC



District I
1625 N. French Dr., Hobbs, NM 88240
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CONDITIONS

Action 212308

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 212308
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	None	5/15/2023