Location:	**BEU 156**	
Spill Date:	**3/3/2023**	
Area 1		
Approximate Area =	103.00	sq. ft.
Average Saturation (or depth) of spill =	0.25	inches
Average Porosity Factor =	0.25	
VOLUME OF LEAK		
Total Crude Oil =	0.10	bbls
Total Produced Water =	0.00	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.10**	**bbls**
Total Produced Water =	**0.00**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**0.00**	**bbls**

ENSOLUM

February 11, 2025

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

Re: Closure Request Addendum
Big Eddy Unit 156
Incident Number NAPP2306844555
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request Addendum* to present additional remediation activities completed at the Big Eddy Unit 156 (Site), in response to the denial of the original *Closure Request*, submitted to the New Mexico Oil Conservation Division (NMOCD) on May 31, 2023. In the denial, NMOCD indicated that the floor sample did not appear to be in the release area and that the release extent was not laterally defined. Based on soil sampling activities described below, XTO is submitting this *Closure Request Addendum* and requesting no further action for Incident Number NAPP2306844555.

BACKGROUND

The Site is located in Unit D, Section 11, Township 22 South, Range 28 East, in Eddy County, New Mexico (32.41236°, -104.06400°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On March 3, 2023, fluid buildup in a crude oil pipeline caused approximately 0.1 barrels (bbls) of crude oil to release and ignite due to a nearby combustor flame. The fire extinguished itself and no recoverable fluids remained. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on March 4, 2023, and submitted a Release Notification Form C-141 (Form C-141) on March 9, 2023. The release was assigned Incident Number NAPP2306844555.

The Closure Request detailed the Site characterization completed 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 in the original Closure Request submitted May 31, 2023. Potential Site receptors are identified on Figure 1. Based on the results of the Site characterization, the following Table I Closure Criteria (Closure Criteria) apply:

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

- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

Between April 3 and April 12, 2023, Ensolum conducted Site assessment, delineation, and excavation activities in response to the release. Four soil samples (SS01 through SS04) were collected outside the release extent to laterally define the release extent. Excavation activities were completed based on visible staining in the release area and composite soil FS01 was collected from the floor of the excavation. Based on laboratory analytical results from the delineation and excavation activities, impacted soil was removed from the Site.

XTO submitted a *Closure Request* on May 31, 2023, requesting no further action (NFA) for the release. All previously completed remedial activities can be found in the original *Closure Request* included in Appendix A. On October 26, 2023, NMOCD denied the *Closure Request* for Incident Number NAPP2306844555 for the following reasons:

> *The Closure Report is Denied. The one floor sample that was taken doesn't appear to be in the release area (Figure 2). The "step-out" samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area to conduct horizontal delineation samples may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. Please make sure that the edge of the release extent is accurately defined. Additionally, when equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment, tanks, pipelines.*

In response to the denial, additional confirmation soil sampling activities were warranted.

CONFIRMATION SOIL SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

On January 30, 2024, Ensolum personnel returned to the Site to complete additional confirmation sampling activities. The release extent presented in the original *Closure Request* was updated based on visible staining and evidence of impairment. In the denial of the original *Closure Request*, there was concern that the floor sample (FS01) was collected outside of the release extent. By including the updated release extent, it is confirmed that FS01 was collected within the release extent. One 5-point composite soil sample (SW01) was collected from the sidewall of the excavation from depths ranging from the ground surface to 0.5 feet Bgs. The 5-point composite sample was collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Four delineation soil samples (SS05 through SS08) were collected around the release extent at a depth of 0.5 feet bgs to confirm the lateral extent of the release. All soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): 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. The release extent and confirmation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

The excavation area measured approximately 140 square feet. The impacted soil was transported and properly disposed of at the R360 Disposal Facility in Hobbs, New Mexico. A total of approximately 3 cubic yards of impacted soil were removed from the Site.

Laboratory analytical results for all confirmation soil samples collected indicated all COC concentrations were in compliance with the most stringent Table I Closure Criteria. The laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Appendix C.

CLOSURE REQUEST

Soil sampling activities were conducted at the Site to address the March 3, 2023, release of crude oil resulting in a fire. The fire extinguished itself and no injuries were reported. Laboratory analytical results from all confirmation soil samples collected from the final excavation extent indicated all COC concentrations were complaint with the most stringent Table I Closure Criteria. Additionally, the release was delineated laterally to the most stringent Table I Closure Criteria. Based on soil sample analytical results, no further remediation is required. The excavation was backfilled with material purchased locally and the surface recontoured to match pre-existing Site conditions.

Excavation of impacted soil has mitigated impacts at the Site. Depth to groundwater has been estimated to be greater than 51 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2306844555.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC

Hadlie Green
Project Geologist

Tacoma Morrissey
Associate Principal

cc: Kaylan Dirkx, XTO
Ashley McAfee, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Confirmation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	May 31, 2023 *Closure Request*
Appendix B	Photographic Log
Appendix C	Laboratory Analytical Reports & Chain-of-Custody Documentation

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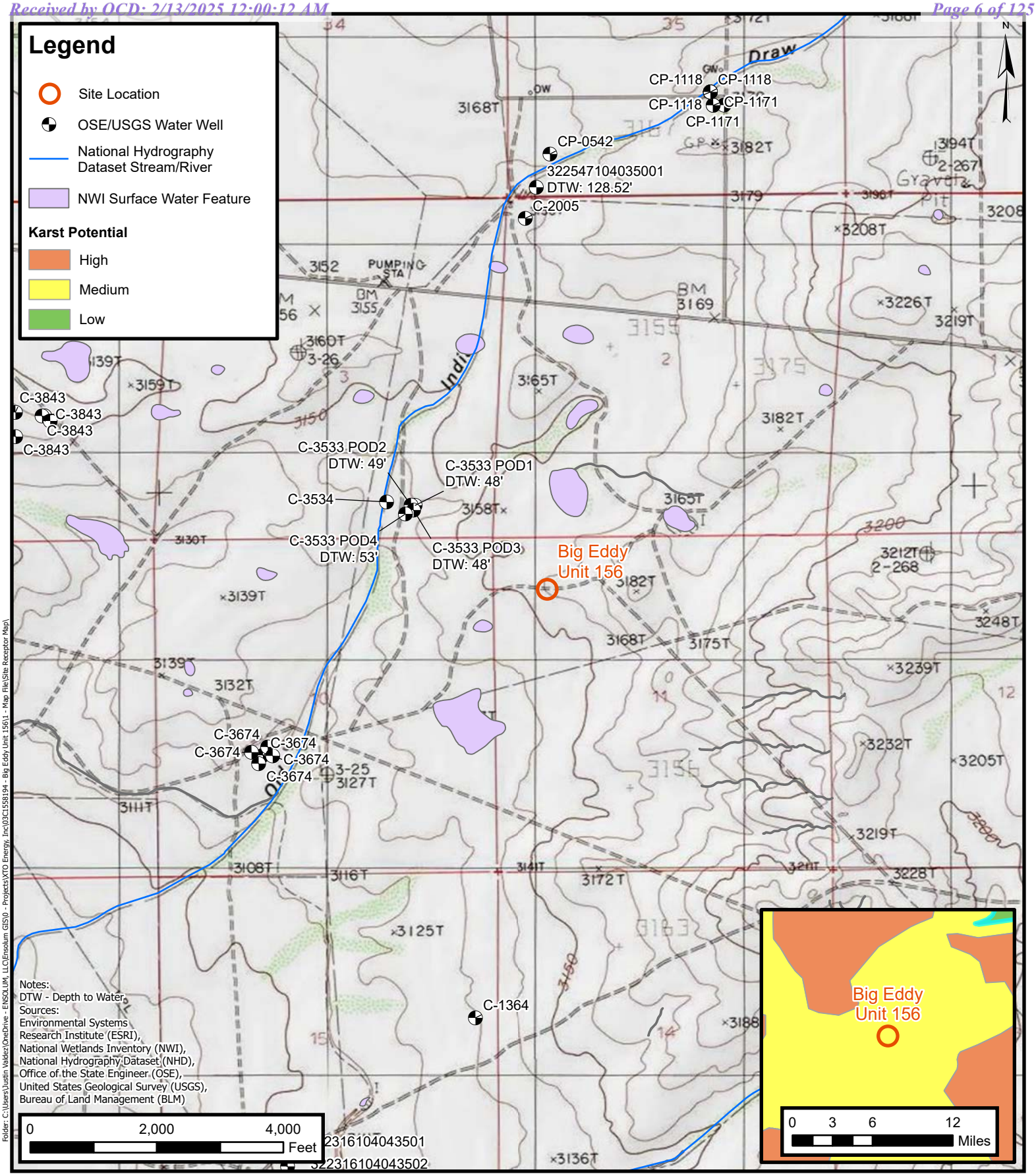
FIGURES



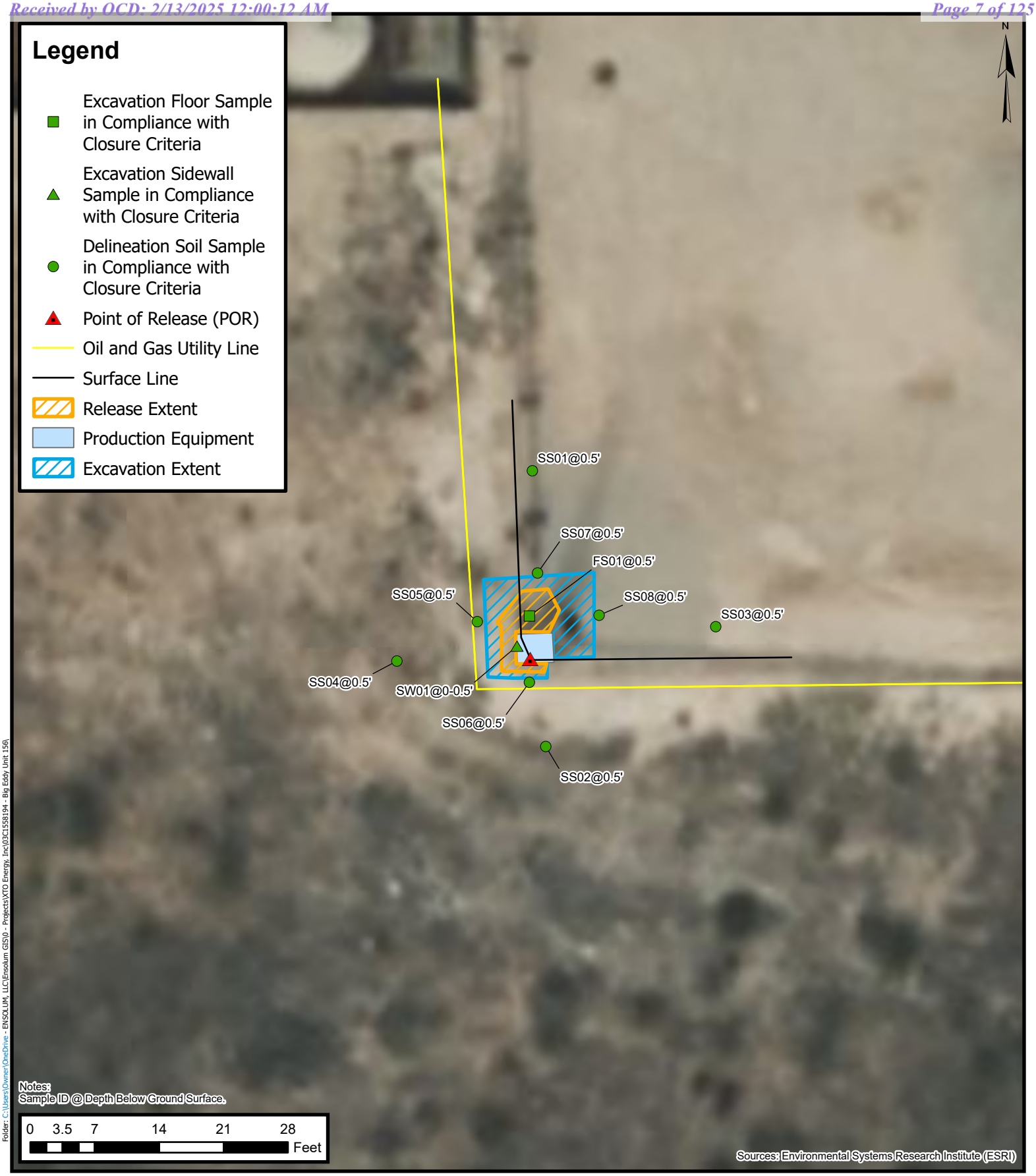
Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558194 - Big Eddy Unit 156\1 - Map File\Site Receptor Map\

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
Big Eddy Unit 156
Incident Number: nAPP2306844555
Unit D, Sec 11, T22S, R28E
Eddy County, New Mexico

FIGURE 1



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Environmental, Engineering and Hydrogeologic Consultants

Confirmation Soil Sample Location

XTO Energy, Inc.
Big Eddy Unit 156
Incident Number: NAPP2306844555
Unit D, Sec 11, T22S, R28E
Eddy County, New Mexico

FIGURE 2

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TABLES

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Big Eddy Unit 156
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
Delineation Soil Samples										
SS01	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	48.6
SS02	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	34.6
SS03	04/03/2023	0.5	<0.00200	<0.00399	<49.8	85.4	<49.8	85.4	85.4	35.8
SS04	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	68.3
SS05	01/30/2024	0.5	<0.00201	<0.00402	<50.5	<50.5	<50.5	<50.5	<50.5	88.4
SS06	01/30/2024	0.5	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	69.6
SS07	01/30/2024	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	214
SS08	01/30/2024	0.5	<0.00199	<0.00398	<49.6	<49.6	<49.6	<49.6	<49.6	230
Excavation Soil Samples										
FS01	04/12/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	207
SW01	01/30/2024	0 - 0.5	<0.00200	<0.00399	<50.1	<50.1	<50.1	<50.1	<50.1	69.2

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria.
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code

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APPENDIX A

May 31, 2023
Closure Request

ENSOLUM

May 26, 2023

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

Re: Closure Request
Big Eddy Unit 156
Incident Number NAPP2306844555
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum) on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities completed at the Big Eddy Unit 156 (Site). The purpose of the Site assessment, excavation, and soil sampling activities was to address impacts to soil following a crude oil release and fire at the Site. Based on field observations and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing Site assessment and excavation activities that have occurred and requesting no further action for Incident Number NAPP2306844555.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 11, Township 22 South, Range 28 East, in Eddy County, New Mexico (32.41236°, -104.06400°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM).

On March 3, 2023, fluid buildup in a crude oil pipeline caused approximately 0.1 barrels (bbls) of crude oil to release and ignite due to a nearby combustor flame. The fire extinguished itself and no recoverable fluids remained. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via email on March 4, 2023, and submitted a Release Notification Form C-141 (Form C-141) on March 9, 2023. The release was assigned Incident Number NAPP2306844555.

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.

Depth to groundwater at the Site is estimated to be greater than 51 feet below ground surface (bgs) based on four soil borings drilled for investigation of impacted soil from a December 2011 produced water and crude oil release (Incident Number nMLB1135446814). The soil borings are permitted through the New Mexico Office of the State Engineer (OSE file number C-3533, POD-1 through POD-4) and are all located approximately 0.45 to 0.47 miles northwest of the Site. All soil borings were advanced to a total depth of 55 feet bgs. The depth to water in the soil borings ranged from 48 feet to 53 feet bgs.

Ground surface elevation at the soil borings location is approximately 3,140 feet above mean sea level (amsl), which is approximately 20 feet lower in elevation than the Site, therefore; groundwater is estimated to be greater than 51 feet bgs at the Site. The groundwater encountered in the investigated area is within a naturally occuring salt water deposit as stated on page 3 of the approved *Closure Request Report* for Incident Number nMLB1135446814, that details the December 2011 release. Additionally, on February 8, 2012, NMOCD agreed with the conclusion that the water encountered at 55 feet bgs was one of many naturally occuring salt water deposits as stated on Page 2, Section 3, of the NMOCD approved drilling permit for file number C-3533 and on Page 5 of the *Closure Request Report*. The Closure Request was submitted to NMOCD on January 23, 2014 and was approved on August 27, 2014. The full report can be found on the NMOCD web portal. On March 6, 2012, the temporary monitoring wells were plugged and abandoned pursuant to OSE standards. The approved drilling permit is included in Appendix A of this report and the soil boring well logs can be found in Appendix C of the approved *Closure Request Report* for Incident Number nMLB1135446814.

The closest continuously flowing or significant watercourse to the Site is freshwater emergent wetland located approximately 832 feet northwest of the Site. The Site is greater than 200 feet from any lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from any 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). Potential Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES

On April 4, 2023, Ensolum personnel were at the Site to complete Site assessment activities and evaluate the release extent based on visible staining and information provided on the Form C-141. Four delineation soil samples (SS01 through SS04) were collected around the release extent from a depth of approximately 0.5 feet bgs to confirm the lateral extent of the release. The delineation soil samples were field screened for volatile aromatic hydrocarbons (VOCs) utilizing a calibrated photoionization detector (PID) and chloride utilizing Hach® chloride QuanTab® test strips. The release extent and delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

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

EXCAVATION SOIL SAMPLING ACTIVITIES

On April 12, 2023, Ensolum returned to the Site to oversee excavation activities based on visible staining in the release area. Excavation activities were performed by use of hand tools and were completed on the well pad around the combustor. Excavation activities were directed by field screening of soil as described above. Following removal of the impacted soil, Ensolum personnel collected a 5-point composite soil sample (FS01) from the floor of the excavation at a depth of 0.5 feet bgs. Composite floor sample FS01 represented the entire 140 square-foot floor of the excavation. Due to the shallow depth of the excavation, soil from the sidewalls was incorporated into the floor soil sample. Floor sample FS01 was collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the sample by thoroughly mixing. The excavation soil sample was handled and analyzed following the same procedures as described above. The excavation extent and excavation soil sample location are presented on Figure 2.

The final excavation extent measured approximately 140 square feet. A total of approximately 3 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Landfill Disposal Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for lateral delineation soil samples SS01 through SS04 and confirmation floor soil sample FS01 indicated all COCs were compliant with the Site Closure Criteria as well as the most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the laboratory analytical reports are attached in Appendix C.

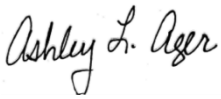
CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the March 3, 2023, release of crude oil resulting in a fire. The fire extinguished itself and no injuries were reported. Laboratory analytical results for confirmation floor sample FS01, collected from the final excavation extent, and delineation soil samples SS01 through SS04, collected around the release extent, indicated all COC concentrations were compliant with the Site Closure Criteria and the most stringent Table I Closure Criteria. Based on the soil sample analytical results, no further remediation was required. The excavation has been backfilled with material purchased locally and the Site has been recontoured to match pre-existing Site conditions. Photographic documentation of the backfill is provided in Appendix B.

Excavation of impacted soil has mitigated impacts at the Site. Depth to groundwater has been estimated to be greater than 51 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAPP2306844555.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely,
Ensolum, LLC



Benjamin J. Belill
Project Geologist

Ashley L. Ager, MS, PG
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
BLM

Appendices:

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

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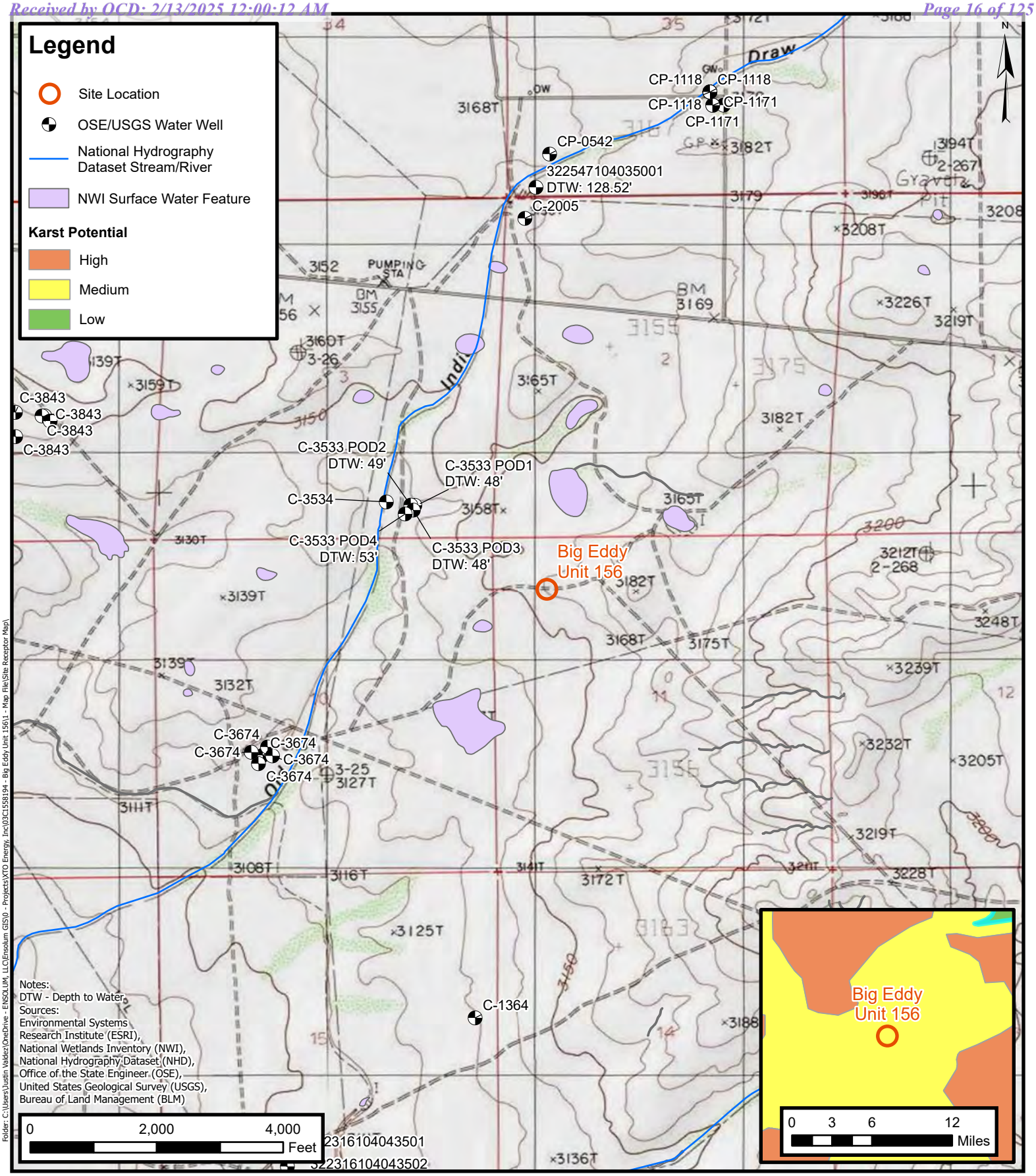
FIGURES



Folder: C:\Users\Justin Valdez\OneDrive - ENSOLUM, LLC\Ensolum GIS\0 - Projects\XTO Energy, Inc\03C1558194 - Big Eddy Unit 156\1 - Map File\Site Receptor Map\

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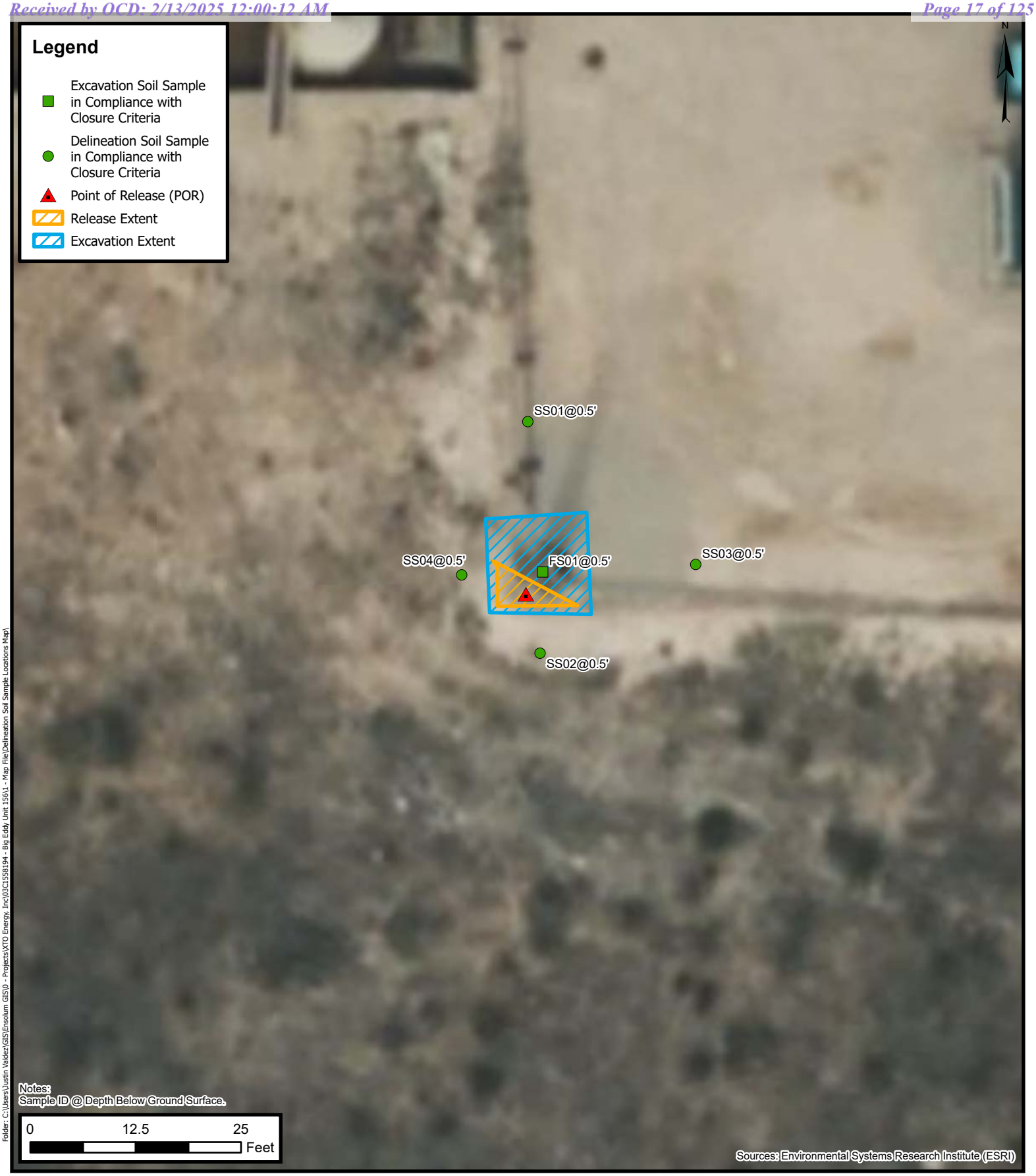
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
Big Eddy Unit 156
Incident Number: nAPP2306844555
Unit D, Sec 11, T22S, R28E
Eddy County, New Mexico

FIGURE 1



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ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Soil Sample Locations

XTO Energy, Inc
Big Eddy Unit 156
Incident Number: nAPP2306844555
Unit D, Sec 11, T22S, R28E
Eddy County, New Mexico

FIGURE 2

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TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
Big Eddy Unit 156
XTO Energy, Inc
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			**10**	**50**	**NE**	**NE**	**NE**	**1,000**	**2,500**	**10,000**
Delineation Soil Samples										
SS01	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	48.6
SS02	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	34.6
SS03	04/03/2023	0.5	<0.00200	<0.00399	<49.8	85.4	<49.8	85.4	85.4	35.8
SS04	04/03/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	68.3
Excavation Soil Samples										
FS01	04/12/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	207

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria.
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code

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APPENDIX A

Referenced Well Records

File No. C-3533

NEW MEXICO OFFICE OF THE STATE ENGINEER

APPLICATION FOR PERMIT TO DRILL A WELL WITH NO CONSUMPTIVE USE OF WATER

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/ 2-30950 $25

Purpose:	☐ Pollution Control And / Or Recovery	☐ Geo-Thermal
☒ Exploratory	☐ Construction Site De-Watering	☐ Other (Describe):
☐ Monitoring	☐ Mineral De-Watering	

A separate permit will be required to apply water to beneficial use.

☒ Temporary Request - Requested Start Date: **2/1/12** Requested End Date: **3/1/12**

Plugging Plan of Operations Submitted? ☒ Yes ☐ No

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2012 FEB 10 A 10:37

1. APPLICANT(S)

Name: ~~Tony Savoie~~ Bopco L.P.	Name: U.S. Dept. of Interior - BLM
Contact or Agent: check here if Agent ☐ **Contact :** Tony Savoie	Contact or Agent: check here if Agent ☐ James A. Amos
Mailing Address: **522 W. Mermod, Suite 704**	Mailing Address: 620 East Greene Street
City: **Carlsbad**	City: Carlsbad
State: **NM** Zip Code: **88220**	State: NM Zip Code: 88220-6292
Phone: **432-556-8730** ☐ Home ☒ Cell Phone (Work): **575-887-7329**	Phone: ☐ Home ☐ Cell Phone (Work) 575-234-5909
E-mail (optional): **tasavoie@basspet.com**	E-mail (optional): jamos@blm.gov

STATE ENGINEER OFFICE ROSWELL, NEW MEXICO 2012 FEB 10 A 10:37

FOR OSE INTERNAL USE Application for Permit, Form wr-07, Rev 12/14/11

File Number: C-3533	Trn Number: 495091
Trans Description (optional): Expl	
Sub-Basin: C	
PCW/LOG Due Date: 02/28/2013	

2. **WELL(S)** Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84)

☐ NM State Plane (NAD83) (Feet) ☐ NM West Zone ☐ NM East Zone ☐ NM Central Zone

☐ UTM (NAD83) (Meters) ☐ Zone 12N ☐ Zone 13N

☒ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Optional: Complete boxes labeled "Other" below with PLSS (Public Land Survey System, i.e. Quarters, Section, Township, Range); Hydrographic Survey Map & Tract; Lot, Block & Subdivision; OR Land Grant Name if known.
SITE A TMW-1 POD 1			N 32° 24' 57.81" W 104° 4' 14.63" NWSWSESE, Section 03, T.22S, R.28E
SITE A TMW-2 POD 2			N 32° 24' 57.85" W 104° 4' 15.38" NWSWSESE, Section 03, T. 22S, R.28E
SITE A TMW-3 POD 3			N 32° 24' 57.07" W 104° 4' 14.92" NWSWSESE, Section 03, T.22S R.28E
SITE A TMW-5 POD 4			N 32° 24'56.48" W 104°4' 16.43" SESESWSE, Section 03, T.22S R.28E

2012 FEB 10 A 10: 37
STATE ENGINEER OFFICE ROSWELL, NEW MEXICO

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ☒ Yes ☐ No If yes, how many _____

Other description relating well to common landmarks, streets, or other: **U.L P Section 3, Twns. 22S, Range 28E**

Well is on land owned by: **Blm**

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☒ Yes ☐ No
If yes, how many **4**

Approximate depth of well (feet): **55.00**	Outside diameter of well casing (inches): **2.00**
Driller Name: **Straub**	Driller License Number: **WD 1478**

3. **ADDITIONAL STATEMENTS OR EXPLANATIONS**

The bore holes at the Site A were drilled on 1/12/12 as veritcal delineation points at a flow line spill area. A very salty water zone was encountered at a depth of approximately 55 ft. below ground surface. The soil bores were set up as temporary wells with 10 ft of 2" screen and a mesh filter sock. The NMOCD was notified of our findings. The water in the wells was sampled and developed over a period of about 2 weeks. The water elevation dropped on the average of about 2 ft. during that time frame. TMW-5 started out at approximately 2 ft. of water column and now has moist sediment in the well bore. On 2/8/12 the NMOCD agreed with our conclusion that the water encountered at 55 ft. was one of many naturally occuring salt water deposits.

2012 FEB 10 A 10: 37
STATE ENGINEER OFFICE ROSWELL, NEW MEXICO

FOR OSE INTERNAL USE Application for Permit, Form wr-07

File Number: C-3533	Trn Number: 495091

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☒ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ☐ Include the reason for the monitoring well, and, ☐ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Geo-Thermal:** ☐ Include a description of the geothermal heat exchange project, ☐ The amount of water to be diverted and re-injected for the project, ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), **John A. "Tony" Savoie** James A. Amos (BLM-CFO)
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Tony Savoie 2/10/12
Applicant Signature

James A. Amos 2-10-12
Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 16th day of February 2012, for the State Engineer,

Scott A. Verhines, P.E., State Engineer

By: Bill Duemling
Signature Print

Title: Carlsbad Basin Supervisor
Print

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2012 FEB 10 A 11:38

FOR OSE INTERNAL USE Application for Permit, Form wr-07

File Number: C-3533	Trn Number: 495091

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

1A Depth of the well shall not exceed the thickness of the valley fill.

4 No water shall be appropriated and beneficially used under this permit.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C Driller's well record must be filed with the State Engineer within 20 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

LOG The Point of Diversion C 03533 POD1 must be completed and the Well Log filed on or before 02/28/2013.

LOG The Point of Diversion C 03533 POD2 must be completed and the Well Log filed on or before 02/28/2013.

LOG The Point of Diversion C 03533 POD3 must be completed and the Well Log filed on or before 02/28/2013.

LOG The Point of Diversion C 03533 POD4 must be completed and the Well Log filed on or before 02/28/2013.

NO WATER SHALL BE DIVERTED FROM THESE WELLS EXCEPT FOR TESTING PURPOSES WHICH SHALL NOT EXCEED TEN (10) CUMULATIVE DAYS, AND WELLS SHALL BE PLUGGED OR CAPPED ON OR BEFORE 02/28/2013, UNLESS A PERMIT TO USE WATER FROM THESE WELLS IS ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

THE WELLS SHALL BE CONSTRUCTED, MAINTAINED AND OPERATED THAT EACH WATER SHALL BE CONFINED TO THE AQUIFER IN WHICH IT IS ENCOUNTERED.

Trn Desc: C 03533-WATER QUALITY SAMPLING

File Number: C 03533
Trn Number: 495091

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 02/10/2012 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 16 day of Feb A.D., 2012

Scott A. Verhines, P.E., State Engineer

By: Bill Duemling
Bill Duemling, Basin Supv.

Trn Desc: C 03533-WATER QUALITY SAMPLING File Number: C 03533
Trn Number: 495091

Locator Tool Report

General Information:

Application ID:30 Date: 02-15-2012 Time: 15:21:02

WR File Number: C-03533-POD1
Purpose: POINT OF DIVERSION

Applicant First Name: BOPCO LLP
Applicant Last Name: EXPLORATORY WELLS (POD ONE OF FOUR)

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NW 1/4 of SW 1/4 of SE 1/4 of SE 1/4 of Section 03, Township 22S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	24 Minutes	57.8 Seconds	N
Longitude:	104 Degrees	4 Minutes	14.6 Seconds	W

Universal Transverse Mercator Zone: 13N

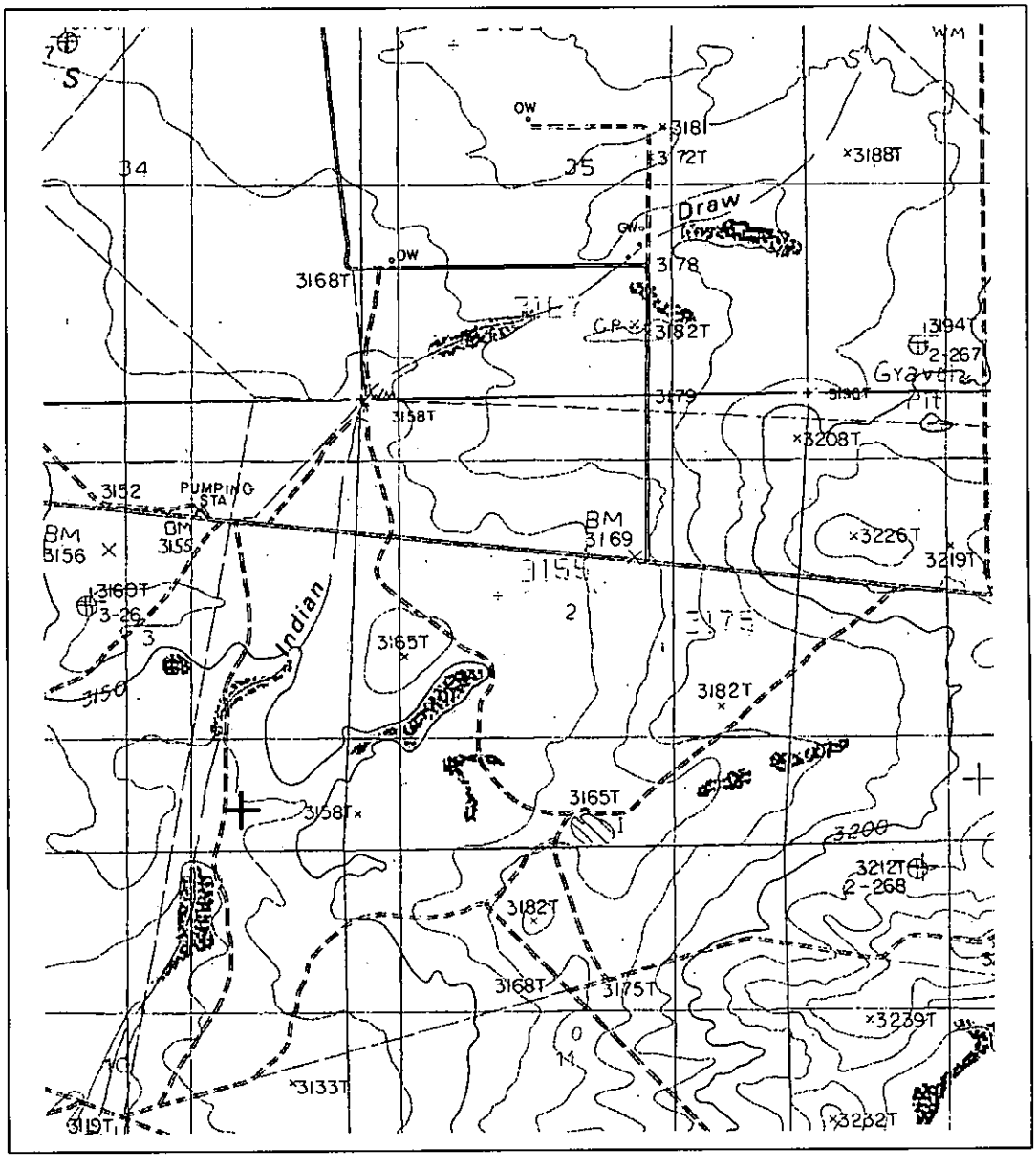
NAD 1983(92) (Meters)	N: 3,586,934	E: 587,377
NAD 1983(92) (Survey Feet)	N: 11,768,133	E: 1,927,087
NAD 1927 (Meters)	N: 3,586,732	E: 587,426
NAD 1927 (Survey Feet)	N: 11,767,470	E: 1,927,248

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 157,031	E: 189,699
NAD 1983(92) (Survey Feet)	N: 515,193	E: 622,372
NAD 1927 (Meters)	N: 157,013	E: 177,147
NAD 1927 (Survey Feet)	N: 515,132	E: 581,190

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-03533-POD1 Scale: 1:26,394

Northing/Easting: UTM83(92) (Meter): N: 3,586,934 E: 587,377

Northing/Easting: SPCS83(92) (Feet): N: 515,193 E: 622,372

GW Basin: Carlsbad

Print Date: 02/15/2012

Locator Tool Report

General Information:

Application ID:30 Date: 02-15-2012 Time: 15:23:34

WR File Number: C-03533-POD2
Purpose: POINT OF DIVERSION

Applicant First Name: BOPCO LLP
Applicant Last Name: EXPLORATORY WELLS (POD TWO OF FOUR)

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NW 1/4 of SW 1/4 of SE 1/4 of SE 1/4 of Section 03, Township 22S, Range 28E..

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	24 Minutes	57.9 Seconds	N
Longitude:	104 Degrees	4 Minutes	15.4 Seconds	W

Universal Transverse Mercator Zone: 13N

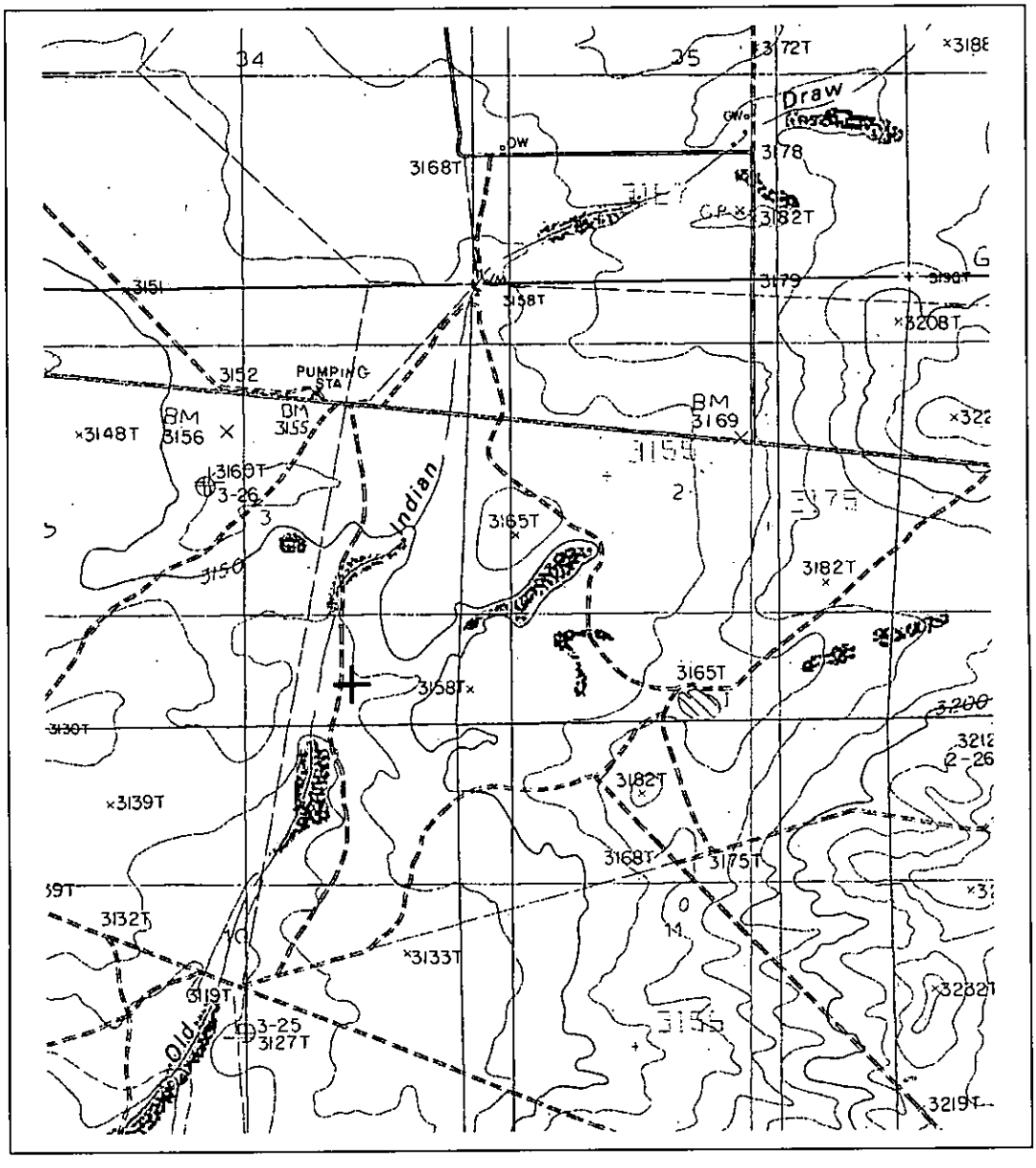
NAD 1983(92) (Meters)	N: 3,586,935	E: 587,358
NAD 1983(92) (Survey Feet)	N: 11,768,136	E: 1,927,023
NAD 1927 (Meters)	N: 3,586,733	E: 587,407
NAD 1927 (Survey Feet)	N: 11,767,473	E: 1,927,184

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 157,032	E: 189,680
NAD 1983(92) (Survey Feet)	N: 515,197	E: 622,307
NAD 1927 (Meters)	N: 157,014	E: 177,127
NAD 1927 (Survey Feet)	N: 515,136	E: 581,126

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



WR File Number: C-03533-POD2 Scale: 1:26,992

Northing/Easting: UTM83(92) (Meter): N: 3,586,935 E: 587,358

Northing/Easting: SPCS83(92) (Feet): N: 515,197 E: 622,307

GW Basin: Carlsbad

Print Date: 02/15/2012

Locator Tool Report

General Information:

Application ID:30 Date: 02-15-2012 Time: 15:25:13

WR File Number: C-03533-POD3
Purpose: POINT OF DIVERSION

Applicant First Name: BOPCO LLP
Applicant Last Name: EXPLORATORY WELLS (POD THREE OF FOUR)

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

NW 1/4 of SW 1/4 of SE 1/4 of SE 1/4 of Section 03, Township 22S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	24 Minutes	57.1 Seconds	N
Longitude:	104 Degrees	4 Minutes	14.9 Seconds	W

Universal Transverse Mercator Zone: 13N

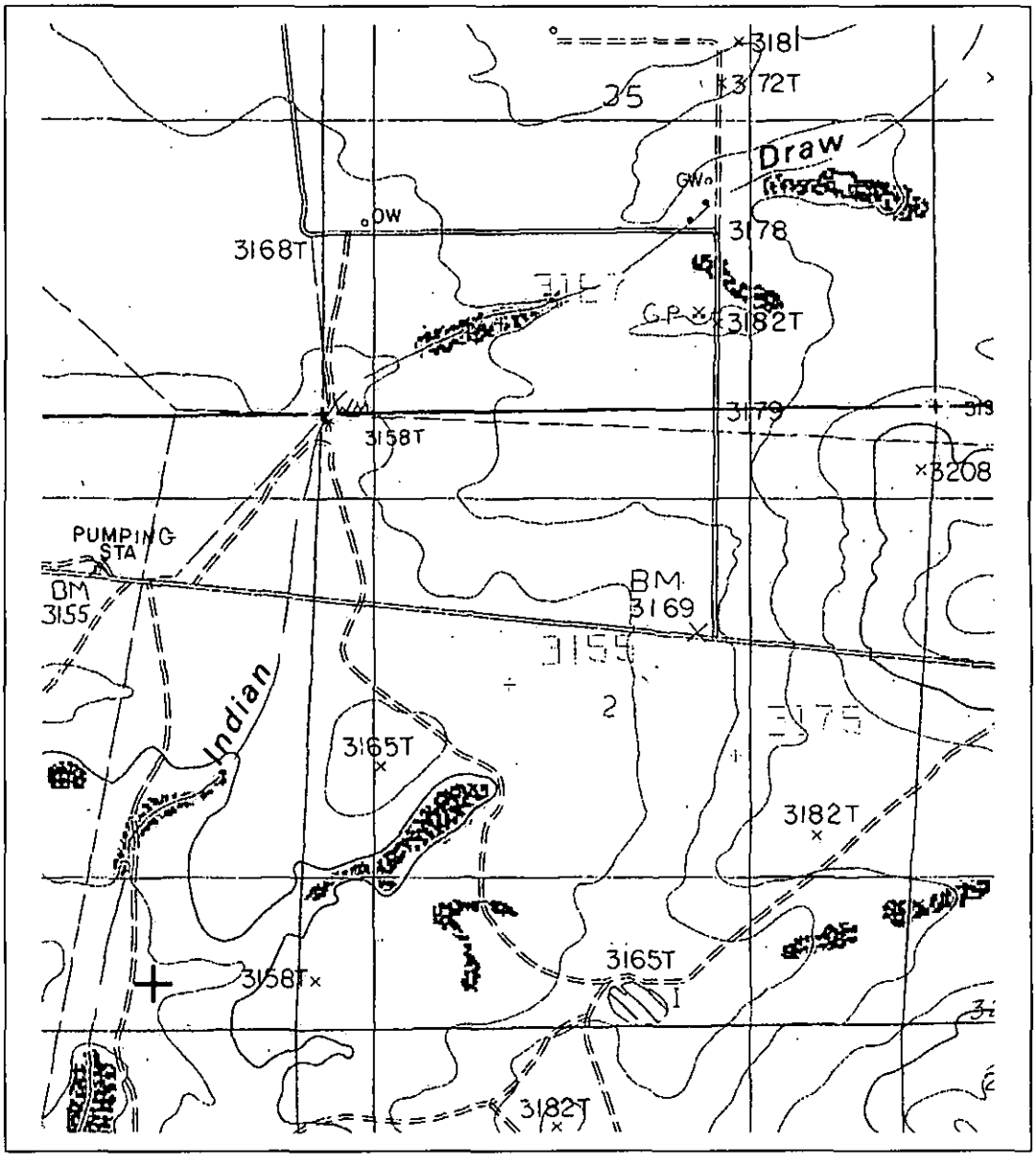
NAD 1983(92) (Meters)	N: 3,586,911	E: 587,370
NAD 1983(92) (Survey Feet)	N: 11,768,058	E: 1,927,063
NAD 1927 (Meters)	N: 3,586,709	E: 587,419
NAD 1927 (Survey Feet)	N: 11,767,395	E: 1,927,224

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 157,008	E: 189,692
NAD 1983(92) (Survey Feet)	N: 515,118	E: 622,347
NAD 1927 (Meters)	N: 156,990	E: 177,140
NAD 1927 (Survey Feet)	N: 515,058	E: 581,165

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



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Northing/Easting: UTM83(92) (Meter): N: 3,586,911 E: 587,370

Northing/Easting: SPCS83(92) (Feet): N: 515,118 E: 622,347

GW Basin: Carlsbad

Locator Tool Report

General Information:

Application ID:30 Date: 02-15-2012 Time: 15:28:24

WR File Number: C-03533-POD4
Purpose: POINT OF DIVERSION

Applicant First Name: BOPCO LLP
Applicant Last Name: EXPLORATORY WELLS (POD FOUR OF FOUR)

GW Basin: CARLSBAD
County: EDDY

Critical Management Area Name(s): NONE
Special Condition Area Name(s): NONE
Land Grant Name: NON GRANT

PLSS Description (New Mexico Principal Meridian):

SE 1/4 of SE 1/4 of SW 1/4 of SE 1/4 of Section 03, Township 22S, Range 28E.

Coordinate System Details:

Geographic Coordinates:

Latitude:	32 Degrees	24 Minutes	56.5 Seconds	N
Longitude:	104 Degrees	4 Minutes	16.4 Seconds	W

Universal Transverse Mercator Zone: 13N

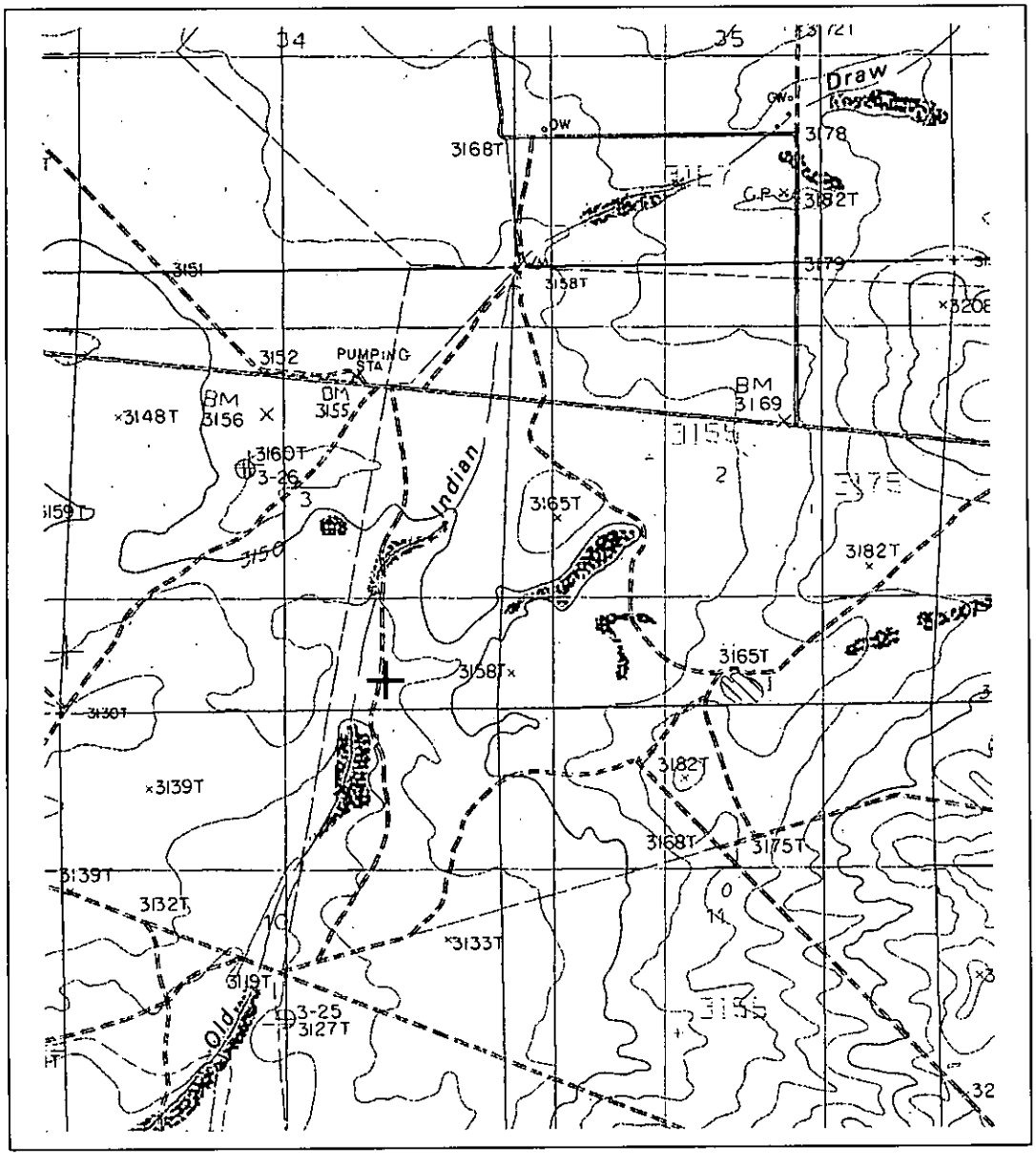
NAD 1983(92) (Meters)	N: 3,586,893	E: 587,331
NAD 1983(92) (Survey Feet)	N: 11,767,997	E: 1,926,934
NAD 1927 (Meters)	N: 3,586,691	E: 587,380
NAD 1927 (Survey Feet)	N: 11,767,334	E: 1,927,095

State Plane Coordinate System Zone: New Mexico East

NAD 1983(92) (Meters)	N: 156,990	E: 189,652
NAD 1983(92) (Survey Feet)	N: 515,058	E: 622,218
NAD 1927 (Meters)	N: 156,972	E: 177,100
NAD 1927 (Survey Feet)	N: 514,998	E: 581,036

NEW MEXICO OFFICE OF STATE ENGINEER

Locator Tool Report



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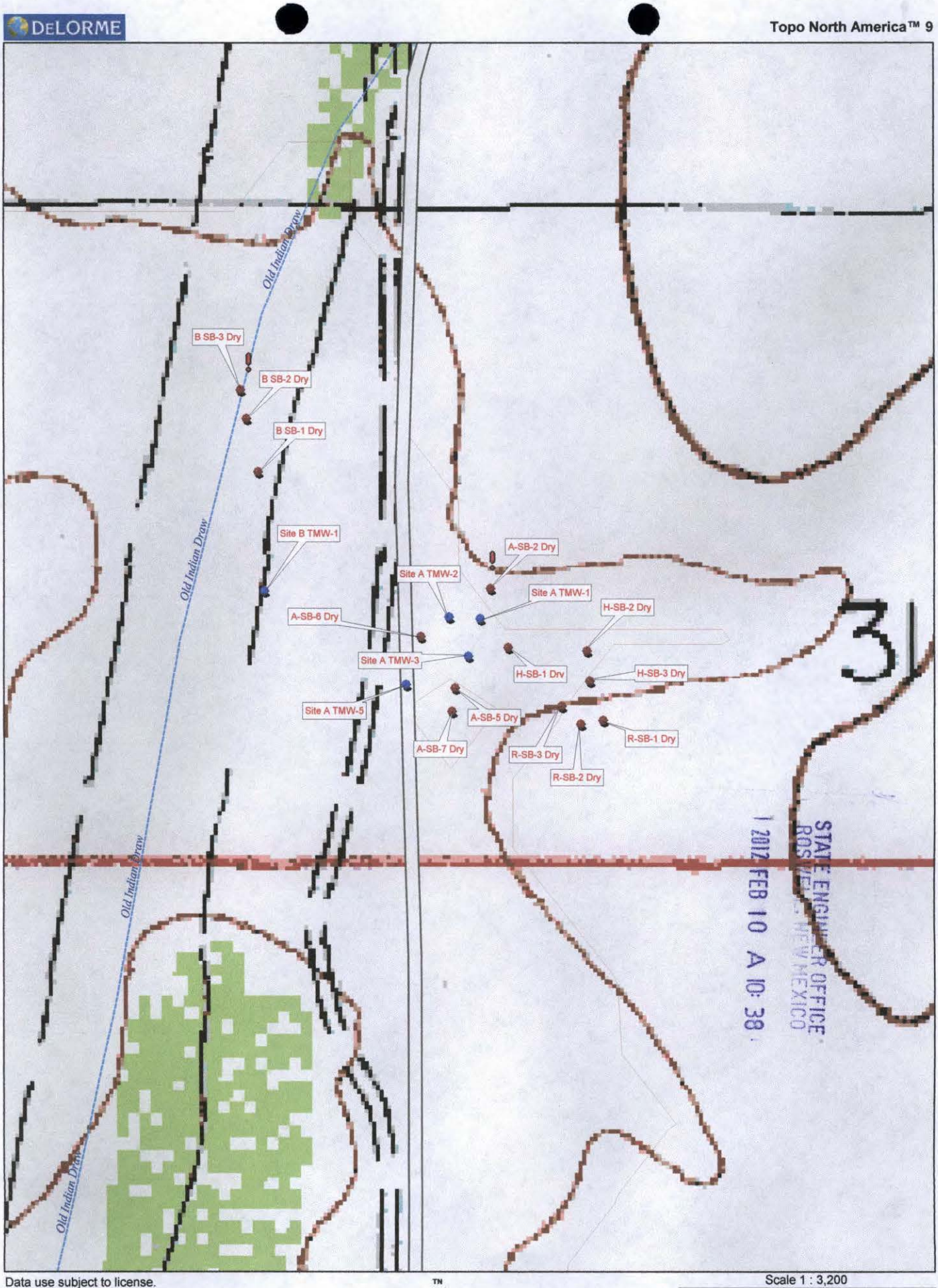
Northing/Easting: UTM83(92) (Meter): N: 3,586,893 E: 587,331

Northing/Easting: SPCS83(92) (Feet): N: 515,058 E: 622,218

GW Basin: Carlsbad


DeLORME
Topo North America™ 9
Old Indian Draw
Old Indian Draw
Old Indian Draw
B SB-3 Dry
B SB-2 Dry
B SB-1 Dry
Site B TMW-1
A-SB-2 Dry
Site A TMW-2
Site A TMW-1
H-SB-2 Dry
A-SB-6 Dry
Site A TMW-3
H-SB-1 Drv
H-SB-3 Dry
Site A TMW-5
A-SB-5 Dry
R-SB-1 Dry
A-SB-7 Dry
R-SB-3 Dry
R-SB-2 Dry
STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO
2012 FEB 10 A 10: 38
Data use subject to license.
© DeLorme. Topo North America™ 9.
www.delorme.com
TN
MN (7.8°E)
Scale 1 : 3,200
1" = 266.7 ft
Data Zoom 16-0

BOPCO L.P. BASS 3 FEDERAL #4 PROJECT

Site	Soil Bore	Temp. Well	Total Depth ft.	Water Column ft.	Status
A	SB-1	TMW-1	55.48	5.58	Temporary well, pending plugging.
A	SB-2		55	Dry	Bore was plugged with bentonite.
A	SB-3	TMW-2	54.95	4.6	Temporary well, pending plugging.
A	SB-4	TMW-3	54.95	5.5	Temporary well, pending plugging.
A	SB-5		55	Dry	Originally set as TMW-4 "dry Hole" plugged with bentonite
A	SB-6		55	Dry	Bore was plugged with bentonite.
A	SB-7		55	Dry	Bore was plugged with bentonite.
A	SB-8	TMW-5	54.95	0.25	Temporary well, pending plugging.
B	SB-1		40	Dry	Bore was plugged with bentonite
B	SB-2		60	Dry	Bore was plugged with bentonite
B	SB-3		110	Dry	Bore was plugged with bentonite
B	SB-4	TMW-1	147.86	42.27	Temporary well, pending permanent completion.
Site	**Soil Bore**	**Lat Degrees**	**Long. Degrees**		**Degrees, Minutes, Seconds**
A	SB-1	32.41606	104.07073		N32* 24' 57.81" W 104* 4' 14.63"
A	SB-2	32.41623	104.07066		N32* 24' 58.42" W 104* 4' 14.37"
A	SB-3	32.41607	104.07094		N32* 24' 57.85" W 104* 4' 15.38"
A	SB-4	32.41585	104.07081		N32* 24' 57.07" W 104* 4' 14.92"
A	SB-5	32.41567	104.0709		N32* 24' 56.42" W 104* 4' 15.24"
A	SB-6	32.41596	104.07113		N32* 24' 57.45" W 104* 4' 16.06"
A	SB-7	32.41554	104.07092		N32* 24' 55.94" W 104* 4' 15.31"
A	SB-8	32.41569	104.07123		N32* 24' 56.48" W 104* 4' 16.43"
B	SB-1	32.41688	104.07223		N32* 25' 0.80" W 104* 4' 20.02"
B	SB-2	32.41719	104.07231		N32* 25' 1.88" W 104* 4' 20.32"
B	SB-3	32.41735	104.07235		N32* 25' 2.47" W 104* 4' 20.45"
B	SB-4	32.416216	104.072189		N32* 24' 58.38" W 104* 4' 19.89"

Temporary Well Plugging Plan

BOPCO L.P. will upon approval by the New Mexico Office Of The State Engineer plug the temporary wells at the remediation project know as the Bass 3 Federal #4 Site A. A licensed driller will remove the 2" pipe and screen from the bore. The bore will then be filled with bentonite, the bore will be gauged as the bentonite is poured and hydrated to assure a uniform seal from surface to total depth; the number of bags of bentonite used to plug the hole will be recorded and logged by the driller.

Tony Savoie
Waste Management and Remediation Specialist.

Scott A. Verhines, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 495091
File Nbr: C 03533

Feb. 16, 2012

JAMES AMOS
U.S. DEPT. OF INTERIOR--BLM
620 EAST GREENE STREET
CARLSBAD, NM 88220-6292

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 02/28/2013, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 02/28/2013.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Bill Duemling
(575)622-6521

Enclosure

explore

ENSOLUM

APPENDIX B

Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc
Big Eddy Unit 156
Incident Number NAPP2306844555

Photograph 1 Date : 3/27/2023
Description: Site assessment activities, release extent.
View: Southwest

Photograph 2 Date: 4/3/2023
Description: Delineation activities, release extent area.
View: North

Photograph 3 Date: 4/12/2023
Description: Final excavation extent.
View: Southwest

Photograph 4 Date: 5/18/2023
Description: Excavation backfilled
View: South

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 4/13/2023 9:03:07 AM

JOB DESCRIPTION

BEU 156 Fire
SDG NUMBER 03C1558194

JOB NUMBER

890-4457-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

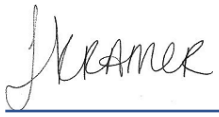
Eurofins Carlsbad

Job Notes

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

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

Authorization



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4/13/2023 9:03:07 AM

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

Client: Ensolum
Project/Site: BEU 156 Fire

Laboratory Job ID: 890-4457-1
SDG: 03C1558194

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4457-1
Project/Site: BEU 156 Fire SDG: 03C1558194

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Job ID: 890-4457-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4457-1

Receipt
The samples were received on 4/3/2023 4:09 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 3.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-4457-1), SS02 (890-4457-2), SS03 (890-4457-3) and SS04 (890-4457-4).

GC VOA
Method 8021B: Surrogate recovery for the following sample was outside control limits: SS02 (890-4457-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-50990 and analytical batch 880-50945 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

GC Semi VOA
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: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS01

Lab Sample ID: 890-4457-1
Matrix: Solid
Date Collected: 04/03/23 11:55
Date Received: 04/03/23 16:09
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		04/12/23 12:13	04/12/23 23:25	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:25	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:25	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/12/23 23:25	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:25	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/12/23 23:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/12/23 12:13*	*04/12/23 23:25*	*1*
1,4-Difluorobenzene (Surr)	*85*		*70 - 130*	*04/12/23 12:13*	*04/12/23 23:25*	*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			04/13/23 09:53	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			04/09/23 22:35	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		04/05/23 16:03	04/07/23 14:25	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 14:25	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*04/05/23 16:03*	*04/07/23 14:25*	*1*
o-Terphenyl	*94*		*70 - 130*	*04/05/23 16:03*	*04/07/23 14:25*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**48.6**		4.97		mg/Kg			04/09/23 15:15	1

Client Sample ID: SS02

Lab Sample ID: 890-4457-2
Matrix: Solid
Date Collected: 04/03/23 12:00
Date Received: 04/03/23 16:09
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		04/12/23 12:13	04/12/23 23:45	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:45	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:45	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/12/23 23:45	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/12/23 23:45	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/12/23 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*78*		*70 - 130*	*04/12/23 12:13*	*04/12/23 23:45*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS02

Date Collected: 04/03/23 12:00
Date Received: 04/03/23 16:09
Sample Depth: 0.5'

Lab Sample ID: 890-4457-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*62*	*S1-*	*70 - 130*	*04/12/23 12:13*	*04/12/23 23:45*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398	mg/Kg			04/13/23 09:53	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			04/09/23 22:35	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		04/05/23 16:03	04/07/23 14:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		04/05/23 16:03	04/07/23 14:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		04/05/23 16:03	04/07/23 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*77*		*70 - 130*	*04/05/23 16:03*	*04/07/23 14:47*	*1*
o-Terphenyl	*81*		*70 - 130*	*04/05/23 16:03*	*04/07/23 14:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**34.6**		4.95	mg/Kg			04/09/23 15:28	1

Client Sample ID: SS03

Date Collected: 04/03/23 12:05
Date Received: 04/03/23 16:09
Sample Depth: 0.5'

Lab Sample ID: 890-4457-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		04/12/23 12:13	04/13/23 00:06	1
Toluene	<0.00200	U	0.00200	mg/Kg		04/12/23 12:13	04/13/23 00:06	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		04/12/23 12:13	04/13/23 00:06	1
m-Xylene & p-Xylene	<0.00399	U	0.00399	mg/Kg		04/12/23 12:13	04/13/23 00:06	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		04/12/23 12:13	04/13/23 00:06	1
Xylenes, Total	<0.00399	U	0.00399	mg/Kg		04/12/23 12:13	04/13/23 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/12/23 12:13*	*04/13/23 00:06*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/12/23 12:13*	*04/13/23 00:06*	*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			04/13/23 09:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	**85.4**		49.8	mg/Kg			04/09/23 22:35	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS03

Lab Sample ID: 890-4457-3
Matrix: Solid
Date Collected: 04/03/23 12:05
Date Received: 04/03/23 16:09
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	<49.8	U	49.8		mg/Kg		04/05/23 16:03	04/07/23 15:32	1
Diesel Range Organics (Over C10-C28)	**85.4**		49.8		mg/Kg		04/05/23 16:03	04/07/23 15:32	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/05/23 16:03	04/07/23 15:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/05/23 16:03*	*04/07/23 15:32*	*1*
o-Terphenyl	*106*		*70 - 130*	*04/05/23 16:03*	*04/07/23 15:32*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**35.8**		5.02		mg/Kg			04/09/23 15:33	1

Client Sample ID: SS04

Lab Sample ID: 890-4457-4
Matrix: Solid
Date Collected: 04/03/23 12:10
Date Received: 04/03/23 16:09
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		04/12/23 12:13	04/13/23 03:10	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/13/23 03:10	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/13/23 03:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/13/23 03:10	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/12/23 12:13	04/13/23 03:10	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/12/23 12:13	04/13/23 03:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*	*04/12/23 12:13*	*04/13/23 03:10*	*1*
1,4-Difluorobenzene (Surr)	*84*		*70 - 130*	*04/12/23 12:13*	*04/13/23 03:10*	*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			04/13/23 09:53	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			04/09/23 22:35	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		04/05/23 16:03	04/07/23 15:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 15:54	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*76*		*70 - 130*	*04/05/23 16:03*	*04/07/23 15:54*	*1*
o-Terphenyl	*80*		*70 - 130*	*04/05/23 16:03*	*04/07/23 15:54*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS04
Date Collected: 04/03/23 12:10
Date Received: 04/03/23 16:09
Sample Depth: 0.5'

Lab Sample ID: 890-4457-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68.3		5.03		mg/Kg			04/09/23 15:37	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-27093-A-1-A MS	Matrix Spike	94	109
880-27093-A-1-B MSD	Matrix Spike Duplicate	71	76
890-4457-1	SS01	113	85
890-4457-2	SS02	78	62 S1-
890-4457-3	SS03	109	82
890-4457-4	SS04	111	84
LCS 880-50990/1-A	Lab Control Sample	101	108
LCSD 880-50990/2-A	Lab Control Sample Dup	99	112
MB 880-50827/5-A	Method Blank	79	96
MB 880-50990/5-A	Method Blank	72	82

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-26670-A-61-B MS	Matrix Spike	118	108
880-26670-A-61-C MSD	Matrix Spike Duplicate	115	105
890-4457-1	SS01	89	94
890-4457-2	SS02	77	81
890-4457-3	SS03	101	106
890-4457-4	SS04	76	80
LCS 880-50425/2-A	Lab Control Sample	104	109
LCSD 880-50425/3-A	Lab Control Sample Dup	89	94
MB 880-50425/1-A	Method Blank	101	113

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50827/5-A
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50827

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/10/23 11:52	04/12/23 10:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/10/23 11:52	04/12/23 10:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/10/23 11:52	04/12/23 10:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/10/23 11:52	04/12/23 10:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/10/23 11:52	04/12/23 10:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/10/23 11:52	04/12/23 10:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*79*		*70 - 130*	*04/10/23 11:52*	*04/12/23 10:50*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*04/10/23 11:52*	*04/12/23 10:50*	*1*

Lab Sample ID: MB 880-50990/5-A
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50990

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/12/23 12:13	04/12/23 22:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/12/23 12:13	04/12/23 22:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/12/23 12:13	04/12/23 22:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/12/23 12:13	04/12/23 22:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/12/23 12:13	04/12/23 22:22	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/12/23 12:13	04/12/23 22:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*72*		*70 - 130*	*04/12/23 12:13*	*04/12/23 22:22*	*1*
1,4-Difluorobenzene (Surr)	*82*		*70 - 130*	*04/12/23 12:13*	*04/12/23 22:22*	*1*

Lab Sample ID: LCS 880-50990/1-A
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50990

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1089		mg/Kg		109	70 - 130		
Toluene			0.100	0.09836		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09552		mg/Kg		96	70 - 130		
m-Xylene & p-Xylene			0.200	0.2013		mg/Kg		101	70 - 130		
o-Xylene			0.100	0.1024		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-50990/2-A
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50990

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1199		mg/Kg		120	70 - 130	10	35

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

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

Lab Sample ID: LCSD 880-50990/2-A
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50990

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.1060		mg/Kg		106	70 - 130	7	35
Ethylbenzene			0.100	0.1013		mg/Kg		101	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2114		mg/Kg		106	70 - 130	5	35
o-Xylene			0.100	0.1077		mg/Kg		108	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-27093-A-1-A MS
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 50990

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1 F2	0.0998	0.06239	F1	mg/Kg		63	70 - 130
Toluene	<0.00201	U F1 F2	0.0998	0.05144	F1	mg/Kg		52	70 - 130
Ethylbenzene	<0.00201	U F1 F2	0.0998	0.05442	F1	mg/Kg		55	70 - 130
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.200	0.1014	F1	mg/Kg		51	70 - 130
o-Xylene	<0.00201	U F1 F2	0.0998	0.05754	F1	mg/Kg		58	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*

Lab Sample ID: 880-27093-A-1-B MSD
Matrix: Solid
Analysis Batch: 50945

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 50990

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1 F2	0.0990	0.02572	F1 F2	mg/Kg		26	70 - 130	83	35
Toluene	<0.00201	U F1 F2	0.0990	0.02450	F1 F2	mg/Kg		25	70 - 130	71	35
Ethylbenzene	<0.00201	U F1 F2	0.0990	0.02449	F1 F2	mg/Kg		25	70 - 130	76	35
m-Xylene & p-Xylene	<0.00402	U F1 F2	0.198	0.04329	F1 F2	mg/Kg		22	70 - 130	80	35
o-Xylene	<0.00201	U F1 F2	0.0990	0.02653	F1 F2	mg/Kg		27	70 - 130	74	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*71*		*70 - 130*
1,4-Difluorobenzene (Surr)	*76*		*70 - 130*

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

Lab Sample ID: MB 880-50425/1-A
Matrix: Solid
Analysis Batch: 50572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50425

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		04/05/23 16:03	04/07/23 08:12	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

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

Lab Sample ID: MB 880-50425/1-A
Matrix: Solid
Analysis Batch: 50572

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 50425

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 08:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/05/23 16:03	04/07/23 08:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/05/23 16:03*	*04/07/23 08:12*	*1*
o-Terphenyl	*113*		*70 - 130*	*04/05/23 16:03*	*04/07/23 08:12*	*1*

Lab Sample ID: LCS 880-50425/2-A
Matrix: Solid
Analysis Batch: 50572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 50425

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1132		mg/Kg		113	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	844.1		mg/Kg		84	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*109*		*70 - 130*

Lab Sample ID: LCSD 880-50425/3-A
Matrix: Solid
Analysis Batch: 50572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 50425

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	970.1		mg/Kg		97	70 - 130	15	20
Diesel Range Organics (Over C10-C28)			1000	765.4		mg/Kg		77	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

Lab Sample ID: 880-26670-A-61-B MS
Matrix: Solid
Analysis Batch: 50572

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 50425

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	1027		mg/Kg		99	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1176		mg/Kg		116	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*118*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

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

Lab Sample ID: 880-26670-A-61-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 50572 — **Prep Batch: 50425**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1015		mg/Kg		98	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.9	U	997	1136		mg/Kg		112	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*115*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50506/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50741

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/09/23 15:01	1

Lab Sample ID: LCS 880-50506/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50741

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	240.8		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-50506/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50741

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	237.0		mg/Kg		95	90 - 110	2	20

Lab Sample ID: 890-4457-1 MS — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50741

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	48.6		249	297.9		mg/Kg		100	90 - 110		

Lab Sample ID: 890-4457-1 MSD — **Client Sample ID: SS01**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 50741

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	48.6		249	296.8		mg/Kg		100	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

GC VOA

Prep Batch: 50827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-50827/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 50945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	8021B	50990
890-4457-2	SS02	Total/NA	Solid	8021B	50990
890-4457-3	SS03	Total/NA	Solid	8021B	50990
890-4457-4	SS04	Total/NA	Solid	8021B	50990
MB 880-50827/5-A	Method Blank	Total/NA	Solid	8021B	50827
MB 880-50990/5-A	Method Blank	Total/NA	Solid	8021B	50990
LCS 880-50990/1-A	Lab Control Sample	Total/NA	Solid	8021B	50990
LCSD 880-50990/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	50990
880-27093-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	50990
880-27093-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	50990

Prep Batch: 50990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	5035	
890-4457-2	SS02	Total/NA	Solid	5035	
890-4457-3	SS03	Total/NA	Solid	5035	
890-4457-4	SS04	Total/NA	Solid	5035	
MB 880-50990/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-50990/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-50990/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-27093-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-27093-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 51028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	Total BTEX	
890-4457-2	SS02	Total/NA	Solid	Total BTEX	
890-4457-3	SS03	Total/NA	Solid	Total BTEX	
890-4457-4	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 50425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	8015NM Prep	
890-4457-2	SS02	Total/NA	Solid	8015NM Prep	
890-4457-3	SS03	Total/NA	Solid	8015NM Prep	
890-4457-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-50425/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-50425/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-50425/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-26670-A-61-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-26670-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 50572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	8015B NM	50425

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

GC Semi VOA (Continued)

Analysis Batch: 50572 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-2	SS02	Total/NA	Solid	8015B NM	50425
890-4457-3	SS03	Total/NA	Solid	8015B NM	50425
890-4457-4	SS04	Total/NA	Solid	8015B NM	50425
MB 880-50425/1-A	Method Blank	Total/NA	Solid	8015B NM	50425
LCS 880-50425/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	50425
LCSD 880-50425/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	50425
880-26670-A-61-B MS	Matrix Spike	Total/NA	Solid	8015B NM	50425
880-26670-A-61-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	50425

Analysis Batch: 50763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Total/NA	Solid	8015 NM	
890-4457-2	SS02	Total/NA	Solid	8015 NM	
890-4457-3	SS03	Total/NA	Solid	8015 NM	
890-4457-4	SS04	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 50506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Soluble	Solid	DI Leach	
890-4457-2	SS02	Soluble	Solid	DI Leach	
890-4457-3	SS03	Soluble	Solid	DI Leach	
890-4457-4	SS04	Soluble	Solid	DI Leach	
MB 880-50506/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-50506/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-50506/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4457-1 MS	SS01	Soluble	Solid	DI Leach	
890-4457-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 50741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4457-1	SS01	Soluble	Solid	300.0	50506
890-4457-2	SS02	Soluble	Solid	300.0	50506
890-4457-3	SS03	Soluble	Solid	300.0	50506
890-4457-4	SS04	Soluble	Solid	300.0	50506
MB 880-50506/1-A	Method Blank	Soluble	Solid	300.0	50506
LCS 880-50506/2-A	Lab Control Sample	Soluble	Solid	300.0	50506
LCSD 880-50506/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	50506
890-4457-1 MS	SS01	Soluble	Solid	300.0	50506
890-4457-1 MSD	SS01	Soluble	Solid	300.0	50506

Lab Chronicle

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS01
Date Collected: 04/03/23 11:55
Date Received: 04/03/23 16:09

Lab Sample ID: 890-4457-1
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	50990	04/12/23 12:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50945	04/12/23 23:25	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51028	04/13/23 09:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			50763	04/09/23 22:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	50425	04/05/23 16:03	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50572	04/07/23 14:25	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50741	04/09/23 15:15	SMC	EET MID

Client Sample ID: SS02
Date Collected: 04/03/23 12:00
Date Received: 04/03/23 16:09

Lab Sample ID: 890-4457-2
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	50990	04/12/23 12:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50945	04/12/23 23:45	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51028	04/13/23 09:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			50763	04/09/23 22:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50425	04/05/23 16:03	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50572	04/07/23 14:47	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50741	04/09/23 15:28	SMC	EET MID

Client Sample ID: SS03
Date Collected: 04/03/23 12:05
Date Received: 04/03/23 16:09

Lab Sample ID: 890-4457-3
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	50990	04/12/23 12:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50945	04/13/23 00:06	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51028	04/13/23 09:53	AJ	EET MID
Total/NA	Analysis	8015 NM		1			50763	04/09/23 22:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	50425	04/05/23 16:03	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50572	04/07/23 15:32	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50741	04/09/23 15:33	SMC	EET MID

Client Sample ID: SS04
Date Collected: 04/03/23 12:10
Date Received: 04/03/23 16:09

Lab Sample ID: 890-4457-4
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	50990	04/12/23 12:13	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	50945	04/13/23 03:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51028	04/13/23 09:53	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Client Sample ID: SS04

Date Collected: 04/03/23 12:10
Date Received: 04/03/23 16:09

Lab Sample ID: 890-4457-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			50763	04/09/23 22:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	50425	04/05/23 16:03	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	50572	04/07/23 15:54	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	50506	04/06/23 10:48	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	50741	04/09/23 15:37	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

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: BEU 156 Fire

Job ID: 890-4457-1
SDG: 03C1558194

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4457-1	SS01	Solid	04/03/23 11:55	04/03/23 16:09	0.5'
890-4457-2	SS02	Solid	04/03/23 12:00	04/03/23 16:09	0.5'
890-4457-3	SS03	Solid	04/03/23 12:05	04/03/23 16:09	0.5'
890-4457-4	SS04	Solid	04/03/23 12:10	04/03/23 16:09	0.5'

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	BEU 156 Fire	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558194	Due Date:	
Project Location:		TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Connor Whitman		
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#8
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	3.2
Total Containers:		Corrected Temperature:	3.0

Preservative Codes

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

ANALYSIS REQUEST

Pres. Code | Parameters: CHLORIDES (EPA: 3000.0) | TPH (8015) | BTEX (8021)

890-4457 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont
SS01	S	4/3/23	1155	.5	G	1
SS02	"	"	1200	.5	"	1
SS03	"	"	1205	.5	"	1
SS04	"	"	1210	.5	"	1

Sample Comments

Incident ID: nAPP2306844555
Cost Center: 1138471001
AFE:

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4/3/23 1553	2		
3		4/3/23 1604	4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4457-1
SDG Number: 03C1558194

Login Number: 4457
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: 890-4457-1
SDG Number: 03C1558194

Login Number: 4457
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/05/23 11:34 AM

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

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 4/18/2023 2:48:28 PM

JOB DESCRIPTION

BEU 156 Fire
SDG NUMBER 03C1558194

JOB NUMBER

890-4504-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

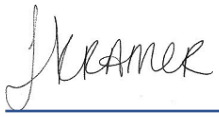
Eurofins Carlsbad

Job Notes

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

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

Authorization



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4/18/2023 2:48:28 PM

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

Client: Ensolum
Project/Site: BEU 156 Fire

Laboratory Job ID: 890-4504-1
SDG: 03C1558194

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4504-1
Project/Site: BEU 156 Fire SDG: 03C1558194

Qualifiers

GC VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Job ID: 890-4504-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4504-1

Receipt
The sample was received on 4/12/2023 2:11 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.8°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: FS01 (890-4504-1).

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-51145 and analytical batch 880-51138 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.

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-4507-A-9-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: FS01 (890-4504-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-51314 and analytical batch 880-51407 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.FS01 (890-4504-1), (880-27147-A-1-B), (880-27147-A-1-C MS) and (880-27147-A-1-D MSD)

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: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Client Sample ID: FS01
Date Collected: 04/12/23 12:20
Date Received: 04/12/23 14:11
Sample Depth: 0.5'

Lab Sample ID: 890-4504-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 20:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 20:39	1
Ethylbenzene	<0.00200	U *-	0.00200		mg/Kg		04/14/23 09:33	04/14/23 20:39	1
m-Xylene & p-Xylene	<0.00399	U *-	0.00399		mg/Kg		04/14/23 09:33	04/14/23 20:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 20:39	1
Xylenes, Total	<0.00399	U *-	0.00399		mg/Kg		04/14/23 09:33	04/14/23 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*04/14/23 09:33*	*04/14/23 20:39*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/14/23 09:33*	*04/14/23 20:39*	*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			04/16/23 10:56	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			04/17/23 09:43	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		04/14/23 12:00	04/15/23 17:53	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/14/23 12:00	04/15/23 17:53	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/14/23 12:00	04/15/23 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*59*	*S1-*	*70 - 130*	*04/14/23 12:00*	*04/15/23 17:53*	*1*
o-Terphenyl	*60*	*S1-*	*70 - 130*	*04/14/23 12:00*	*04/15/23 17:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**207**		25.0		mg/Kg			04/17/23 17:01	5

Surrogate Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-27162-A-1-B MS	Matrix Spike	104	108
880-27162-A-1-C MSD	Matrix Spike Duplicate	103	106
890-4504-1	FS01	103	102
LCS 880-51145/1-A	Lab Control Sample	101	106
LCSD 880-51145/2-A	Lab Control Sample Dup	100	111
MB 880-51145/5-A	Method Blank	93	100

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-4504-1	FS01	59 S1-	60 S1-
890-4507-A-9-C MS	Matrix Spike	77	71
890-4507-A-9-D MSD	Matrix Spike Duplicate	78	73
LCS 880-51185/2-A	Lab Control Sample	78	80
LCSD 880-51185/3-A	Lab Control Sample Dup	77	79
MB 880-51185/1-A	Method Blank	96	106

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51145/5-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51145

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/14/23 09:33	04/14/23 12:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/14/23 09:33	04/14/23 12:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*04/14/23 09:33*	*04/14/23 12:53*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*04/14/23 09:33*	*04/14/23 12:53*	*1*

Lab Sample ID: LCS 880-51145/1-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51145

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.07915		mg/Kg		79	70 - 130		
Toluene			0.100	0.07582		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.06842	*-	mg/Kg		68	70 - 130		
m-Xylene & p-Xylene			0.200	0.1359	*-	mg/Kg		68	70 - 130		
o-Xylene			0.100	0.07189		mg/Kg		72	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-51145/2-A
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51145

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1083		mg/Kg		108	70 - 130	31	35
Toluene			0.100	0.1065		mg/Kg		106	70 - 130	34	35
Ethylbenzene			0.100	0.09740		mg/Kg		97	70 - 130	35	35
m-Xylene & p-Xylene			0.200	0.1940		mg/Kg		97	70 - 130	35	35
o-Xylene			0.100	0.09725		mg/Kg		97	70 - 130	30	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 880-27162-A-1-B MS
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.0998	0.09697		mg/Kg		97	70 - 130		
Toluene	<0.00200	U	0.0998	0.09182		mg/Kg		92	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

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

Lab Sample ID: 880-27162-A-1-B MS
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U *-	0.0998	0.08473		mg/Kg		85	70 - 130
m-Xylene & p-Xylene	<0.00401	U *-	0.200	0.1666		mg/Kg		83	70 - 130
o-Xylene	<0.00200	U	0.0998	0.08298		mg/Kg		83	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-27162-A-1-C MSD
Matrix: Solid
Analysis Batch: 51138

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 51145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.08679		mg/Kg		86	70 - 130	11	35
Toluene	<0.00200	U	0.100	0.08457		mg/Kg		84	70 - 130	8	35
Ethylbenzene	<0.00200	U *-	0.100	0.07596		mg/Kg		76	70 - 130	11	35
m-Xylene & p-Xylene	<0.00401	U *-	0.201	0.1492		mg/Kg		74	70 - 130	11	35
o-Xylene	<0.00200	U	0.100	0.07529		mg/Kg		75	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

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

Lab Sample ID: MB 880-51185/1-A
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 51185

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		04/14/23 12:00	04/15/23 09:44	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/14/23 12:00	04/15/23 09:44	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/14/23 12:00	04/15/23 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*04/14/23 12:00*	*04/15/23 09:44*	*1*
o-Terphenyl	*106*		*70 - 130*	*04/14/23 12:00*	*04/15/23 09:44*	*1*

Lab Sample ID: LCS 880-51185/2-A
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51185

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			1000	966.5		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

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

Lab Sample ID: LCS 880-51185/2-A
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 51185

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	80		70 - 130

Lab Sample ID: LCSD 880-51185/3-A
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 51185

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	880.8		mg/Kg		88	70 - 130	9	20
Diesel Range Organics (Over C10-C28)			1000	936.6		mg/Kg		94	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	79		70 - 130

Lab Sample ID: 890-4507-A-9-C MS
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 51185

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	997	1061		mg/Kg		105	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	997	903.2		mg/Kg		86	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	77		70 - 130
o-Terphenyl	71		70 - 130

Lab Sample ID: 890-4507-A-9-D MSD
Matrix: Solid
Analysis Batch: 51243

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 51185

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	1000	1069		mg/Kg		105	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	936.2		mg/Kg		89	70 - 130	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	78		70 - 130
o-Terphenyl	73		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-51314/1-A
Matrix: Solid
Analysis Batch: 51407

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			04/17/23 16:29	1

Lab Sample ID: LCS 880-51314/2-A
Matrix: Solid
Analysis Batch: 51407

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	234.3		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-51314/3-A
Matrix: Solid
Analysis Batch: 51407

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	241.5		mg/Kg		97	90 - 110	3	20

Lab Sample ID: 880-27147-A-1-C MS
Matrix: Solid
Analysis Batch: 51407

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	142	F1	252	354.7	F1	mg/Kg		85	90 - 110		

Lab Sample ID: 880-27147-A-1-D MSD
Matrix: Solid
Analysis Batch: 51407

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	142	F1	252	363.2	F1	mg/Kg		88	90 - 110	2	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

GC VOA

Analysis Batch: 51138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	8021B	51145
MB 880-51145/5-A	Method Blank	Total/NA	Solid	8021B	51145
LCS 880-51145/1-A	Lab Control Sample	Total/NA	Solid	8021B	51145
LCSD 880-51145/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	51145
880-27162-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	51145
880-27162-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	51145

Prep Batch: 51145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	5035	
MB 880-51145/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-51145/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-51145/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-27162-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-27162-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 51250

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 51185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	8015NM Prep	
MB 880-51185/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-51185/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-51185/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4507-A-9-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4507-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 51243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	8015B NM	51185
MB 880-51185/1-A	Method Blank	Total/NA	Solid	8015B NM	51185
LCS 880-51185/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	51185
LCSD 880-51185/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	51185
890-4507-A-9-C MS	Matrix Spike	Total/NA	Solid	8015B NM	51185
890-4507-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	51185

Analysis Batch: 51303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 51314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Soluble	Solid	DI Leach	
MB 880-51314/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-51314/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-51314/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

HPLC/IC (Continued)

Leach Batch: 51314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-27147-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-27147-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 51407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4504-1	FS01	Soluble	Solid	300.0	51314
MB 880-51314/1-A	Method Blank	Soluble	Solid	300.0	51314
LCS 880-51314/2-A	Lab Control Sample	Soluble	Solid	300.0	51314
LCSD 880-51314/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	51314
880-27147-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	51314
880-27147-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	51314

Lab Chronicle

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Client Sample ID: FS01

Date Collected: 04/12/23 12:20
Date Received: 04/12/23 14:11

Lab Sample ID: 890-4504-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	51145	04/14/23 09:33	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	51138	04/14/23 20:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			51250	04/16/23 10:56	AJ	EET MID
Total/NA	Analysis	8015 NM		1			51303	04/17/23 09:43	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	51185	04/14/23 12:00	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	51243	04/15/23 17:53	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	51314	04/17/23 12:16	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	51407	04/17/23 17:01	SMC	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Laboratory: Eurofins Midland

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

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

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

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: BEU 156 Fire

Job ID: 890-4504-1
SDG: 03C1558194

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4504-1	FS01	Solid	04/12/23 12:20	04/12/23 14:11	0.5'

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Chain of Custody

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

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum, LLC	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	Garrett.Green@ExxonMobil.com, dnikanorov@ensolum.com

Work Order Comments

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

Project Name:	BEU 156 Fire	Turn Around	☑ Routine ☐ Rush
Project Number:	03C1558194	Due Date:	
Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm	
Sampler's Name:	Dmitry Nikanorov		
PO #:			

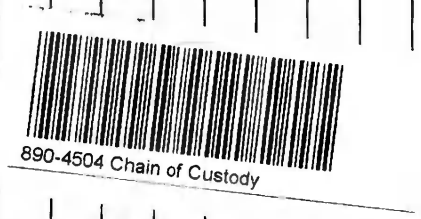
SAMPLE RECEIPT	Temp Blank: Yes No	Wet Ice: Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TM-007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	4.0
Total Containers:		Corrected Temperature:	3.8

ANALYSIS REQUEST

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)
FS01	S	4/12/2023	12:20	0.5'	Comp	1		X	X	X



Sample Comments

INCIDENT #: nAPP2306844555
Cost Center: 1138471001

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		4/12/23 1410	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4504-1
SDG Number: 03C1558194

Login Number: 4504
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: 890-4504-1
SDG Number: 03C1558194

Login Number: 4504
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 04/14/23 10:11 AM

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

ENSOLUM

APPENDIX D

NMOCD Notifications

Collins, Melanie

From: Green, Garrett J
Sent: Saturday, March 4, 2023 1:13 PM
To: Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM
Subject: XTO 24 Hour Notification - BEU 156

All,

This is notification of a fire that occurred yesterday at the BEU 156 near the GPS coordinates given below. No injuries were reported and the fire extinguished itself. Details will be provided with a form C-141. Please contact us with any questions or concerns.

GPS: 32.412365,-104.064009

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

From: Green, Garrett J
To: Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 4/10/23 - 4/14/23)
Date: Thursday, April 6, 2023 10:35:58 AM

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of April 10, 2023.

Wednesday
- PLU CVX JV 018H / NAB1705937661
- JRU 17 CTB/ nAPP2226628060
- BEU 156 Fire / nAPP2304448906

Thursday
- PLU CVX JV 018H / NAB1705937661
- JRU 17 CTB/ nAPP2226628060
- PLU 387H / NMAP1823448856

Friday
- PLU 387H / NMAP1823448856

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

XTO Energy, Inc.
3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729

ENSOLUM

APPENDIX B

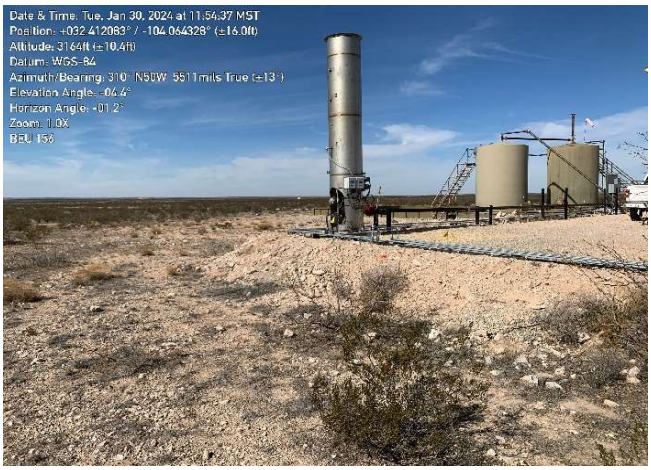
Photographic Log

ENSOLUM

Photographic Log
XTO Energy, Inc.
Big Eddy Unit 156
Incident Number NAPP2306844555

Photograph: 1 Date: 1/30/2024
Description: Site conditions during sampling activities
View: Southwest

Photograph: 2 Date: 1/30/2024
Description: Site conditions during sampling activities
View: Southeast



Photograph: 3 Date: 1/30/2024
Description: Site conditions during sampling activities
View: Northwest

Photograph: 4 Date: 1/30/2024
Description: Site conditions during sampling activities
View: Southeast

ENSOLUM

APPENDIX C

Laboratory Analytical Reports & Chain of Custody Documentation

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/23/2024 5:36:46 PM Revision 1

JOB DESCRIPTION

BEU 156 FIRE
03C1558194

JOB NUMBER

890-6069-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

my EOL

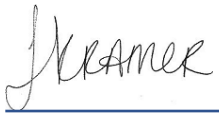
Eurofins Carlsbad

Job Notes

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

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

Authorization



Generated
2/23/2024 5:36:46 PM
Revision 1

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

Client: Ensolum
Project/Site: BEU 156 FIRE

Laboratory Job ID: 890-6069-1
SDG: 03C1558194

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project: BEU 156 FIRE

Job ID: 890-6069-1

Job ID: 890-6069-1 Eurofins Carlsbad

Job Narrative
890-6069-1

REVISION

The report being provided is a revision of the original report sent on 2/12/2024. The report (revision 1) is being revised due to Per client email, requesting chlorde re run.

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

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

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

Receipt
The samples were received on 1/30/2024 12:41 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 1.6°C.

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: SW 01 (890-6069-1), SS 05 (890-6069-2), SS 06 (890-6069-3), SS 07 (890-6069-4) and SS 08 (890-6069-5).

GC VOA
Method 8021B: The matrix spike (MS) recoveries for preparation batch 880-72744 and 880-72744 and analytical batch 880-72754 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-72602 and analytical batch 880-72754 was outside the upper control limits.

Method 8021B: The continuing calibration verification (CCV) associated with batch 880-72754 recovered under the lower control limit for o-Xylene. The samples associated with this CCV were ran within 12 hours of passing CCV; therefore, the data have been reported.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS 08 (890-6069-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-72744 and analytical batch 880-72754 was outside the upper control limits.

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-72344 and analytical batch 880-72614 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: SS 05 (890-6069-2) and SS 08 (890-6069-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-72344 and analytical batch 880-72614 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.

Case Narrative

Client: Ensolum Job ID: 890-6069-1
Project: BEU 156 FIRE

Job ID: 890-6069-1 (Continued) Eurofins Carlsbad

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

HPLC/IC
Method 300_ORGFM_28D - Soluble: The matrix spike (MS) recoveries for preparation batch 880-73369 and analytical batch 880-73374 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.

Client Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SW 01
Date Collected: 01/30/24 10:15
Date Received: 01/30/24 12:41
Sample Depth: 0 - 0.5

Lab Sample ID: 890-6069-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 20:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 20:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 20:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/09/24 11:55	02/10/24 20:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 20:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/09/24 11:55	02/10/24 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:10*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:10*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/10/24 20:10	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.1	U	50.1		mg/Kg			02/08/24 16:53	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.1	U	50.1		mg/Kg		02/05/24 10:17	02/08/24 16:53	1
Diesel Range Organics (Over C10-C28)	<50.1	U	50.1		mg/Kg		02/05/24 10:17	02/08/24 16:53	1
Oil Range Organics (Over C28-C36)	<50.1	U	50.1		mg/Kg		02/05/24 10:17	02/08/24 16:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*100*		*70 - 130*	*02/05/24 10:17*	*02/08/24 16:53*	*1*
o-Terphenyl	*98*		*70 - 130*	*02/05/24 10:17*	*02/08/24 16:53*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.2**		4.96		mg/Kg			02/05/24 00:51	1

Client Sample ID: SS 05
Date Collected: 01/30/24 10:45
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/09/24 11:55	02/10/24 20:31	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/09/24 11:55	02/10/24 20:31	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/09/24 11:55	02/10/24 20:31	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/09/24 11:55	02/10/24 20:31	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/09/24 11:55	02/10/24 20:31	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/09/24 11:55	02/10/24 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:31*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SS 05
Date Collected: 01/30/24 10:45
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-2
Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:31*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402	mg/Kg			02/10/24 20:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.5	U	50.5	mg/Kg			02/08/24 17:15	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.5	U	50.5	mg/Kg		02/05/24 10:17	02/08/24 17:15	1
Diesel Range Organics (Over C10-C28)	<50.5	U	50.5	mg/Kg		02/05/24 10:17	02/08/24 17:15	1
Oil Range Organics (Over C28-C36)	<50.5	U	50.5	mg/Kg		02/05/24 10:17	02/08/24 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*68*	*S1-*	*70 - 130*	*02/05/24 10:17*	*02/08/24 17:15*	*1*
o-Terphenyl	*66*	*S1-*	*70 - 130*	*02/05/24 10:17*	*02/08/24 17:15*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**88.4**		5.01	mg/Kg			02/05/24 01:06	1

Client Sample ID: SS 06
Date Collected: 01/30/24 10:50
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		02/09/24 11:55	02/10/24 20:51	1
Toluene	<0.00200	U	0.00200	mg/Kg		02/09/24 11:55	02/10/24 20:51	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		02/09/24 11:55	02/10/24 20:51	1
m-Xylene & p-Xylene	<0.00401	U	0.00401	mg/Kg		02/09/24 11:55	02/10/24 20:51	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		02/09/24 11:55	02/10/24 20:51	1
Xylenes, Total	<0.00401	U	0.00401	mg/Kg		02/09/24 11:55	02/10/24 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:51*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*02/09/24 11:55*	*02/10/24 20:51*	*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			02/10/24 20:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8	mg/Kg			02/08/24 17:37	1

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Client Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SS 06
Date Collected: 01/30/24 10:50
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/05/24 10:17	02/08/24 17:37	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/05/24 10:17	02/08/24 17:37	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/05/24 10:17	02/08/24 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*02/05/24 10:17*	*02/08/24 17:37*	*1*
o-Terphenyl	*82*		*70 - 130*	*02/05/24 10:17*	*02/08/24 17:37*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69.6**		5.03		mg/Kg			02/05/24 01:11	1

Client Sample ID: SS 07
Date Collected: 01/30/24 10:55
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/10/24 23:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/10/24 23:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/10/24 23:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/09/24 11:55	02/10/24 23:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/10/24 23:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/09/24 11:55	02/10/24 23:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*02/09/24 11:55*	*02/10/24 23:43*	*1*
1,4-Difluorobenzene (Surr)	*115*		*70 - 130*	*02/09/24 11:55*	*02/10/24 23:43*	*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			02/10/24 23:43	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			02/08/24 17:59	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	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 17:59	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 17:59	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*02/05/24 10:17*	*02/08/24 17:59*	*1*
o-Terphenyl	*87*		*70 - 130*	*02/05/24 10:17*	*02/08/24 17:59*	*1*

Client Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SS 07
Date Collected: 01/30/24 10:55
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	214		5.00		mg/Kg			02/05/24 01:16	1

Client Sample ID: SS 08
Date Collected: 01/30/24 11:00
Date Received: 01/30/24 12:41
Sample Depth: 0.5

Lab Sample ID: 890-6069-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/11/24 00:03	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/11/24 00:03	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/11/24 00:03	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/09/24 11:55	02/11/24 00:03	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/09/24 11:55	02/11/24 00:03	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/09/24 11:55	02/11/24 00:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*65*	*S1-*	*70 - 130*	*02/09/24 11:55*	*02/11/24 00:03*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*02/09/24 11:55*	*02/11/24 00:03*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/11/24 00:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.6	U	49.6		mg/Kg			02/08/24 18:21	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 18:21	1
Diesel Range Organics (Over C10-C28)	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 18:21	1
Oil Range Organics (Over C28-C36)	<49.6	U	49.6		mg/Kg		02/05/24 10:17	02/08/24 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*62*	*S1-*	*70 - 130*	*02/05/24 10:17*	*02/08/24 18:21*	*1*
o-Terphenyl	*58*	*S1-*	*70 - 130*	*02/05/24 10:17*	*02/08/24 18:21*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	230		4.95		mg/Kg			02/05/24 01:21	1

Surrogate Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

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)
890-6069-1	SW 01	109	101
890-6069-2	SS 05	114	102
890-6069-3	SS 06	107	100
890-6069-4	SS 07	102	115
890-6069-5	SS 08	65 S1-	118
890-6070-A-1-E MS	Matrix Spike	102	107
890-6070-A-1-F MSD	Matrix Spike Duplicate	98	107
LCS 880-72744/1-A	Lab Control Sample	91	104
LCSD 880-72744/2-A	Lab Control Sample Dup	91	104
MB 880-72602/5-A	Method Blank	131 S1+	135 S1+
MB 880-72744/5-A	Method Blank	129	147 S1+

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)
890-6069-1	SW 01	100	98
890-6069-2	SS 05	68 S1-	66 S1-
890-6069-3	SS 06	80	82
890-6069-4	SS 07	83	87
890-6069-5	SS 08	62 S1-	58 S1-
890-6087-A-1-E MS	Matrix Spike	89	88
890-6087-A-1-F MSD	Matrix Spike Duplicate	87	85
LCS 880-72344/2-A	Lab Control Sample	99	104
LCSD 880-72344/3-A	Lab Control Sample Dup	95	100
MB 880-72344/1-A	Method Blank	145 S1+	168 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-72602/5-A
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72602

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/07/24 16:55	02/10/24 04:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/07/24 16:55	02/10/24 04:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/07/24 16:55	02/10/24 04:16	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/07/24 16:55	02/10/24 04:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/07/24 16:55	02/10/24 04:16	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/07/24 16:55	02/10/24 04:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*02/07/24 16:55*	*02/10/24 04:16*	*1*
1,4-Difluorobenzene (Surr)	*135*	*S1+*	*70 - 130*	*02/07/24 16:55*	*02/10/24 04:16*	*1*

Lab Sample ID: MB 880-72744/5-A
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72744

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 15:52	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 15:52	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 15:52	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/09/24 11:55	02/10/24 15:52	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/09/24 11:55	02/10/24 15:52	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/09/24 11:55	02/10/24 15:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*02/09/24 11:55*	*02/10/24 15:52*	*1*
1,4-Difluorobenzene (Surr)	*147*	*S1+*	*70 - 130*	*02/09/24 11:55*	*02/10/24 15:52*	*1*

Lab Sample ID: LCS 880-72744/1-A
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72744

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09301		mg/Kg		93	70 - 130		
Toluene			0.100	0.09073		mg/Kg		91	70 - 130		
Ethylbenzene			0.100	0.07919		mg/Kg		79	70 - 130		
m-Xylene & p-Xylene			0.200	0.1829		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.08163		mg/Kg		82	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-72744/2-A
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72744

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09990		mg/Kg		100	70 - 130	7	35

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

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

Lab Sample ID: LCSD 880-72744/2-A
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72744

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.09304		mg/Kg		93	70 - 130	3	35
Ethylbenzene			0.100	0.07982		mg/Kg		80	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1903		mg/Kg		95	70 - 130	4	35
o-Xylene			0.100	0.08694		mg/Kg		87	70 - 130	6	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-6070-A-1-E MS
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U F1	0.0996	0.05147	F1	mg/Kg		52	70 - 130
Toluene	<0.00200	U F2 F1	0.0996	0.03423	F1	mg/Kg		34	70 - 130
Ethylbenzene	<0.00200	U F1	0.0996	0.02831	F1	mg/Kg		28	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.199	0.07212	F1	mg/Kg		36	70 - 130
o-Xylene	<0.00200	U F1	0.0996	0.03375	F1	mg/Kg		34	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-6070-A-1-F MSD
Matrix: Solid
Analysis Batch: 72754

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 72744

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U F1	0.0990	0.06780	F1	mg/Kg		68	70 - 130	27	35
Toluene	<0.00200	U F2 F1	0.0990	0.05148	F2 F1	mg/Kg		52	70 - 130	40	35
Ethylbenzene	<0.00200	U F1	0.0990	0.03587	F1	mg/Kg		36	70 - 130	24	35
m-Xylene & p-Xylene	<0.00399	U F1	0.198	0.08732	F1	mg/Kg		44	70 - 130	19	35
o-Xylene	<0.00200	U F1	0.0990	0.03805	F1	mg/Kg		38	70 - 130	12	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-72344/1-A
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72344

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		02/05/24 10:17	02/08/24 07:47	1

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

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

Lab Sample ID: MB 880-72344/1-A
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 72344

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/05/24 10:17	02/08/24 07:47	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/05/24 10:17	02/08/24 07:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*145*	*S1+*	*70 - 130*	*02/05/24 10:17*	*02/08/24 07:47*	*1*
o-Terphenyl	*168*	*S1+*	*70 - 130*	*02/05/24 10:17*	*02/08/24 07:47*	*1*

Lab Sample ID: LCS 880-72344/2-A
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 72344

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	946.1		mg/Kg		95	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	919.5		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*104*		*70 - 130*

Lab Sample ID: LCSD 880-72344/3-A
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 72344

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	813.5		mg/Kg		81	70 - 130	15	20
Diesel Range Organics (Over C10-C28)			1000	883.9		mg/Kg		88	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*95*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: 890-6087-A-1-E MS
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 72344

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	1052		mg/Kg		100	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1010	693.6	F1	mg/Kg		66	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*89*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

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

Lab Sample ID: 890-6087-A-1-F MSD
Matrix: Solid
Analysis Batch: 72614

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 72344

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1010	1089		mg/Kg		104	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	1010	674.4	F1	mg/Kg		64	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*85*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-72012/1-A
Matrix: Solid
Analysis Batch: 72286

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			02/05/24 00:36	1

Lab Sample ID: LCS 880-72012/2-A
Matrix: Solid
Analysis Batch: 72286

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	244.5		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-72012/3-A
Matrix: Solid
Analysis Batch: 72286

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	245.1		mg/Kg		98	90 - 110	0	20

Lab Sample ID: 890-6069-1 MS
Matrix: Solid
Analysis Batch: 72286

Client Sample ID: SW 01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	69.2		248	292.7		mg/Kg		90	90 - 110		

Lab Sample ID: 890-6069-1 MSD
Matrix: Solid
Analysis Batch: 72286

Client Sample ID: SW 01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	69.2		248	292.3		mg/Kg		90	90 - 110	0	20

QC Sample Results

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 880-73369/1-A
Matrix: Solid
Analysis Batch: 73374

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			02/16/24 13:08	1

Lab Sample ID: LCS 880-73369/2-A
Matrix: Solid
Analysis Batch: 73374

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	234.9		mg/Kg		94	90 - 110		

Lab Sample ID: LCSD 880-73369/3-A
Matrix: Solid
Analysis Batch: 73374

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	236.1		mg/Kg		94	90 - 110	0	20

Lab Sample ID: 880-39509-A-2-B MS
Matrix: Solid
Analysis Batch: 73374

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	702	F1	251	923.3	F1	mg/Kg		88	90 - 110		

Lab Sample ID: 880-39509-A-2-C MSD
Matrix: Solid
Analysis Batch: 73374

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	702	F1	251	928.9		mg/Kg		91	90 - 110	1	20

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

GC VOA

Prep Batch: 72602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-72602/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 72744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	5035	
890-6069-2	SS 05	Total/NA	Solid	5035	
890-6069-3	SS 06	Total/NA	Solid	5035	
890-6069-4	SS 07	Total/NA	Solid	5035	
890-6069-5	SS 08	Total/NA	Solid	5035	
MB 880-72744/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-72744/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-72744/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-6070-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-6070-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 72754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	8021B	72744
890-6069-2	SS 05	Total/NA	Solid	8021B	72744
890-6069-3	SS 06	Total/NA	Solid	8021B	72744
890-6069-4	SS 07	Total/NA	Solid	8021B	72744
890-6069-5	SS 08	Total/NA	Solid	8021B	72744
MB 880-72602/5-A	Method Blank	Total/NA	Solid	8021B	72602
MB 880-72744/5-A	Method Blank	Total/NA	Solid	8021B	72744
LCS 880-72744/1-A	Lab Control Sample	Total/NA	Solid	8021B	72744
LCSD 880-72744/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	72744
890-6070-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	72744
890-6070-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	72744

Analysis Batch: 72862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	Total BTEX	
890-6069-2	SS 05	Total/NA	Solid	Total BTEX	
890-6069-3	SS 06	Total/NA	Solid	Total BTEX	
890-6069-4	SS 07	Total/NA	Solid	Total BTEX	
890-6069-5	SS 08	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 72344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	8015NM Prep	
890-6069-2	SS 05	Total/NA	Solid	8015NM Prep	
890-6069-3	SS 06	Total/NA	Solid	8015NM Prep	
890-6069-4	SS 07	Total/NA	Solid	8015NM Prep	
890-6069-5	SS 08	Total/NA	Solid	8015NM Prep	
MB 880-72344/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-72344/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-72344/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-6087-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-6087-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

GC Semi VOA

Analysis Batch: 72614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	8015B NM	72344
890-6069-2	SS 05	Total/NA	Solid	8015B NM	72344
890-6069-3	SS 06	Total/NA	Solid	8015B NM	72344
890-6069-4	SS 07	Total/NA	Solid	8015B NM	72344
890-6069-5	SS 08	Total/NA	Solid	8015B NM	72344
MB 880-72344/1-A	Method Blank	Total/NA	Solid	8015B NM	72344
LCS 880-72344/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	72344
LCSD 880-72344/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	72344
890-6087-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	72344
890-6087-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	72344

Analysis Batch: 72773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Total/NA	Solid	8015 NM	
890-6069-2	SS 05	Total/NA	Solid	8015 NM	
890-6069-3	SS 06	Total/NA	Solid	8015 NM	
890-6069-4	SS 07	Total/NA	Solid	8015 NM	
890-6069-5	SS 08	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 72012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Soluble	Solid	DI Leach	
890-6069-2	SS 05	Soluble	Solid	DI Leach	
890-6069-3	SS 06	Soluble	Solid	DI Leach	
890-6069-4	SS 07	Soluble	Solid	DI Leach	
890-6069-5	SS 08	Soluble	Solid	DI Leach	
MB 880-72012/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-72012/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-72012/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-6069-1 MS	SW 01	Soluble	Solid	DI Leach	
890-6069-1 MSD	SW 01	Soluble	Solid	DI Leach	

Analysis Batch: 72286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6069-1	SW 01	Soluble	Solid	300.0	72012
890-6069-2	SS 05	Soluble	Solid	300.0	72012
890-6069-3	SS 06	Soluble	Solid	300.0	72012
890-6069-4	SS 07	Soluble	Solid	300.0	72012
890-6069-5	SS 08	Soluble	Solid	300.0	72012
MB 880-72012/1-A	Method Blank	Soluble	Solid	300.0	72012
LCS 880-72012/2-A	Lab Control Sample	Soluble	Solid	300.0	72012
LCSD 880-72012/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	72012
890-6069-1 MS	SW 01	Soluble	Solid	300.0	72012
890-6069-1 MSD	SW 01	Soluble	Solid	300.0	72012

Leach Batch: 73369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73369/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-73369/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

HPLC/IC (Continued)

Leach Batch: 73369 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 880-73369/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-39509-A-2-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-39509-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 73374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-73369/1-A	Method Blank	Soluble	Solid	300.0	73369
LCS 880-73369/2-A	Lab Control Sample	Soluble	Solid	300.0	73369
LCSD 880-73369/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	73369
880-39509-A-2-B MS	Matrix Spike	Soluble	Solid	300.0	73369
880-39509-A-2-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	73369

Lab Chronicle

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SW 01
Date Collected: 01/30/24 10:15
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	72744	02/09/24 11:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72754	02/10/24 20:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72862	02/10/24 20:10	SM	EET MID
Total/NA	Analysis	8015 NM		1			72773	02/08/24 16:53	SM	EET MID
Total/NA	Prep	8015NM Prep			9.99 g	10 mL	72344	02/05/24 10:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72614	02/08/24 16:53	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	72012	01/31/24 10:17	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	72286	02/05/24 00:51	CH	EET MID

Client Sample ID: SS 05
Date Collected: 01/30/24 10:45
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	72744	02/09/24 11:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72754	02/10/24 20:31	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72862	02/10/24 20:31	SM	EET MID
Total/NA	Analysis	8015 NM		1			72773	02/08/24 17:15	SM	EET MID
Total/NA	Prep	8015NM Prep			9.91 g	10 mL	72344	02/05/24 10:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72614	02/08/24 17:15	SM	EET MID
Soluble	Leach	DI Leach			4.99 g	50 mL	72012	01/31/24 10:17	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	72286	02/05/24 01:06	CH	EET MID

Client Sample ID: SS 06
Date Collected: 01/30/24 10:50
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	72744	02/09/24 11:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72754	02/10/24 20:51	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72862	02/10/24 20:51	SM	EET MID
Total/NA	Analysis	8015 NM		1			72773	02/08/24 17:37	SM	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	72344	02/05/24 10:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72614	02/08/24 17:37	SM	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	72012	01/31/24 10:17	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	72286	02/05/24 01:11	CH	EET MID

Client Sample ID: SS 07
Date Collected: 01/30/24 10:55
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-4
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	72744	02/09/24 11:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72754	02/10/24 23:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72862	02/10/24 23:43	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Client Sample ID: SS 07
Date Collected: 01/30/24 10:55
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			72773	02/08/24 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72344	02/05/24 10:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72614	02/08/24 17:59	SM	EET MID
Soluble	Leach	DI Leach			5.00 g	50 mL	72012	01/31/24 10:17	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	72286	02/05/24 01:16	CH	EET MID

Client Sample ID: SS 08
Date Collected: 01/30/24 11:00
Date Received: 01/30/24 12:41

Lab Sample ID: 890-6069-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	72744	02/09/24 11:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	72754	02/11/24 00:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			72862	02/11/24 00:03	SM	EET MID
Total/NA	Analysis	8015 NM		1			72773	02/08/24 18:21	SM	EET MID
Total/NA	Prep	8015NM Prep			10.09 g	10 mL	72344	02/05/24 10:17	TKC	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	72614	02/08/24 18:21	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	72012	01/31/24 10:17	SMC	EET MID
Soluble	Analysis	300.0		1	0 mL	1.0 mL	72286	02/05/24 01:21	CH	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-23-26	06-30-24

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

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

Method Summary

Client: Ensolum
Project/Site: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

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: BEU 156 FIRE

Job ID: 890-6069-1
SDG: 03C1558194

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-6069-1	SW 01	Solid	01/30/24 10:15	01/30/24 12:41	0 - 0.5
890-6069-2	SS 05	Solid	01/30/24 10:45	01/30/24 12:41	0.5
890-6069-3	SS 06	Solid	01/30/24 10:50	01/30/24 12:41	0.5
890-6069-4	SS 07	Solid	01/30/24 10:55	01/30/24 12:41	0.5
890-6069-5	SS 08	Solid	01/30/24 11:00	01/30/24 12:41	0.5

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Chain of Custody

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

Work Order No: 6069

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Project Manager:	Ben Belill	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garrett.Green@ExxonMobil.com

Work Order Comments

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

Project Name:	BEU 156 FIRE	Turn Around	Pres. Code
Project Number:	03C1558194	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Connor Whitman	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	TM007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	1.8
Total Containers:		Corrected Temperature:	1.6

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLORIDES (EPA: 3000.0)	TPH (8015)	BTEX (8021)
SW01	S	1/30/24	1015	0-.5	C	1			
SS05			1045	.5	G				
SS06			1050	.5					
SS07			1055	.5					
SS08	↓	↓	11:00	.5	↓	↓			CW

Preservative Codes

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

Sample Comments

Incident ID: nAPP2306844555

Cost Center: 1138471001

AFE:

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

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

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

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

1 Brun 8 1/30/24 1241

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6069-1
SDG Number: 03C1558194

Login Number: 6069
List Number: 1
Creator: Bruns, Shannon

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-6069-1
SDG Number: 03C1558194

Login Number: 6069
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 02/01/24 11:02 AM

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

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

QUESTIONS

Action 431331

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAPP2306844555**
Incident Name	**NAPP2306844555 BIG EDDY UNIT 156 @ 0**
Incident Type	**Fire**
Incident Status	**Remediation Closure Report Received**
Incident Facility	**[fAPP2126343561] BIG EDDY UNIT 156**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	BIG EDDY UNIT 156
Date Release Discovered	03/03/2023
Surface Owner	Federal

Incident Details	
Please answer all the questions in this group.	
Incident Type	Fire
Did this release result in a fire or is the result of a fire	Yes
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	Cause: Other | Other (Specify) | Crude Oil | Released: 0 BBL | Recovered: 0 BBL | Lost: 0 BBL.
Produced Water Released (bbls) Details	*Not answered.*
Is the concentration of chloride in the produced water >10,000 mg/l	*Not answered.*
Condensate Released (bbls) Details	*Not answered.*
Natural Gas Vented (Mcf) Details	*Not answered.*
Natural Gas Flared (Mcf) Details	*Not answered.*
Other Released Details	*Not answered.*
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Fluid built up and exited line, then ignited due to combustor flame. Fire extinguished itself and no injuries were reported. A third-party contractor has been retained for remediation purposes.

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**More info needed to determine if this will be treated as a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(2) an unauthorized release of a volume that:** **(a) results in a fire or is the result of a fire.**
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response	
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.	
The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*
Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.	

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

I hereby agree and sign off to the above statement	Name: Ashley Mcafee Email: ashley.a.mcafee@exxonmobil.com Date: 02/12/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 51 and 75 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 500 and 1000 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 500 and 1000 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	230
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	50
GRO+DRO (EPA SW-846 Method 8015M)	50
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
On what estimated date will the remediation commence	04/03/2023
On what date will (or did) the final sampling or liner inspection occur	01/30/2024
On what date will (or was) the remediation complete(d)	01/30/2024
What is the estimated surface area (in square feet) that will be reclaimed	140
What is the estimated volume (in cubic yards) that will be reclaimed	3
What is the estimated surface area (in square feet) that will be remediated	140
What is the estimated volume (in cubic yards) that will be remediated	3
These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.	
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: Ashley Mcafee Email: ashley.a.mcafee@exxonmobil.com Date: 02/12/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

Operator:	OGRID:
XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Deferral Requests Only *Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.*	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**308022**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**01/30/2024**
What was the (estimated) number of samples that were to be gathered	**8**
What was the sampling surface area in square feet	**1600**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	140
What was the total volume (cubic yards) remediated	3
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	140
What was the total volume (in cubic yards) reclaimed	3
Summarize any additional remediation activities not included by answers (above)	Soil sampling activities were conducted at the Site to address the March 3, 2023, release of crude oil resulting in a fire. The fire extinguished itself and no injuries were reported. Laboratory analytical results from all confirmation soil samples collected from the final excavation extent indicated all COC concentrations were complaint with the most stringent Table I Closure Criteria. Additionally, the release was delineated laterally to the most stringent Table I Closure Criteria. Based on soil sample analytical results, no further remediation is required. The excavation was backfilled with material purchased locally and the surface recontoured to match pre-existing Site conditions. Excavation of impacted soil has mitigated impacts at the Site. Depth to groundwater has been estimated to be greater than 51 feet bgs and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater.
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.	

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

I hereby agree and sign off to the above statement	Name: Ashley Mcafee Email: ashley.a.mcafee@exxonmobil.com Date: 02/12/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 431331
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Reclamation Report	
Only answer the questions in this group if all reclamation steps have been completed.	
Requesting a reclamation approval with this submission	No

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CONDITIONS

Action 431331

CONDITIONS

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CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAPP2306844555 BIG EDDY UNIT 156, thank you. This Remediation Closure Report is approved.	2/18/2025