State of New Mexico
Oil Conservation Division

Incident ID	NAPP2218943007
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __01/18/2023_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: ___Jocelyn Harimon_____ Date: ___01/18/2023___

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

Closure Approved by: ___Robert Hamlet_____ Date: 5/18/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAPP2218943007
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Garrett Green	Contact Telephone 575-200-0729
Contact email garrett.green@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 3104 E. Greene Street, Carlsbad, New Mexico, 88220	

Location of Release Source

Latitude 32.10109 Longitude -103.87514

(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU 27 Brushy Draw 161H	Site Type Production Well
Date Release Discovered 06/25/2022	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
L	27	25S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☒ Other (describe) Produced Water w/FR	Volume/Weight Released (provide units) 46.15 BBLS	Volume/Weight Recovered (provide units) 46.00 BBLS

Cause of Release: Electronic failure caused fluids to overflow into containment and onto pad. All free fluids were recovered. A third-party contractor has been retained for remediation purposes.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2218943007
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Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Garrett Green to ocd.enviro@state.nm.us, Mike Bratcher, Robert Hamlet, and Jennifer Nobui on 6/26/22 via email.

Initial Response

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

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

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

NA

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

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

Printed Name: Garrett Green
Title: SSHE Coordinator
Signature: Scott Green
Date: 07/08/2022
email: garrett.green@exxonmobil.com
Telephone: 575-200-0729

OCD Only

Received by: Jocelyn Harimon
Date: 07/08/2022

Location:	PLU 27 Brushy Draw 161H	
Spill Date:	6/25/2022	

Area 1		
Approximate Area =	252.66	sq. ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	45.00	bbls
Area 2		
Approximate Area =	225.00	sq. ft.
Average Saturation (or depth) of spill =	1.50	inches

Average Porosity Factor =	0.03	

VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	1.15	bbls

TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**46.15**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**46.00**	**bbls**

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

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

CONDITIONS

Action 123789

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 123789
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	7/8/2022

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2218943007
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Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2218943007
District RP	
Facility ID	
Application ID	

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature:_____ Date: ____01/18/2023_____

email: _garrett.green@exxonmobil.com_____ Telephone: ____575-200-0729_____

OCD Only

Received by: Jocelyn Harimon Date: 01/18/2023

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2218943007
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

☒ Description of remediation activities

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

Printed Name: _Garrett Green_____ Title: _Environmental Coordinator_____

Signature: _____ Date: __01/18/2023_____

email: __garrett.green@exxonmobil.com_____ Telephone: ___575-200-0729_____

OCD Only

Received by: ____Jocelyn Harimon_____ Date: ___01/18/2023___

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ENSOLUM

January 18, 2023

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

Re: Closure Request
PLU 27 Brushy Draw 161H
Incident Number NAPP2218943007
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 site assessment and soil sampling activities performed at the PLU 27 Brushy Draw 161H (Site) in Unit L, Section 27, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil resulting from a release of produced water with friction reducer at the Site. Based on field observations, field screening activities, and laboratory analytical results from the soil sampling events, XTO is requesting closure for Incident Number NAPP2218943007.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Eddy County, New Mexico (32.10109° N, 103.87514°W) and is associated with oil and gas exploration and production operations on Federal Land managed by Bureau of Land Management (BLM).

On June 25, 2022, during hydraulic fracking operations, an electronic failure resulted in the release of approximately 46.15 barrels (bbls) of produced water with friction reducer into a temporary lined containment and onto the well pad. A vacuum truck was immediately dispatched to the Site to recover the free-standing fluids; approximately 46.0 bbls of fluid were recovered. XTO immediately reported the release to the New Mexico Oil Conservation Division (NMOCD) via emial on June, 26, 2022, and submitted a Release Notification Form C-141 (Form C-141) on July 8, 2022. The release was assigned Incident Number NAPP2218943007.

The temporary liner was removed prior to beginning site assessment activities. As such, a liner inspection could not be completed. The release extent was identified based on information provided on the Form C-141 and visual observations.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to determine the applicabillity 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 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320628103533001, located approximately 1.1 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 264 feet bgs and a total depth of 288 feet bgs. Ground surface elevation at the groundwater well location is 3,207 feet above mean sea level (amsl), which is approximately 53 feet lower in elevation than the Site. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is a seasonal dry wash, located approximately 1,226 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Potential Site receptors are identified on Figure 1.

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

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

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

Following a one call utility clearance, Ensolum personnel visited the Site to evaluate the presence or absence of impacts to soil based on information provided on the Form C-141 and visual observations. The temporary containment had been removed and no visible staining was observed. Photographic documentation was conducted during the Site visit. A photographic log is included in Appendix B. Four potholes (PH01 through PH04) were advanced by use of heavy equipment to a total depth of 1-foot bgs. Two discrete delineation soil samples were collected from each pothole at depths of 0.5 feet and 1-foot bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were documented on a lithologic/soil sampling log and are included as Appendix C. The delineation soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

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

Laboratory analytical results for all delineation soil samples indicated all COC concentrations were compliant with the Site Closure Criteria and compliant with most stringent Table I Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included in Appendix D.

CLOSURE REQUEST

Site assessment activities were conducted at the Site to assess for the presence or absence of impacted soil resulting from the June 25, 2022, release of produced water with friction reducer. Laboratory analytical results for soil samples collected near the release point, from depths ranging from 0.5 feet to 1 feet bgs, indicated all COC concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table I Closure Criteria. NMOCD correspondence is provided in Appendix E and the safety data sheet (SDS) for friction reducer is provided in Appendix F.

Based on initial response efforts, depth to groundwater greater than 100 feet bgs, and soil sample laboratory analytical results, no further remediation was required. XTO believes these remedial actions are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NAPP2218943007.

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

Sincerely,
Ensolum, LLC

Connor Whitman
Field Scientist

Ashley L. Ager, M.S., P.G.
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
BLM

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Well Record and Log
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain-of-Custody Documentation
Appendix E	NMOCD Notifications
Appendix F	Friction Reducer SDS

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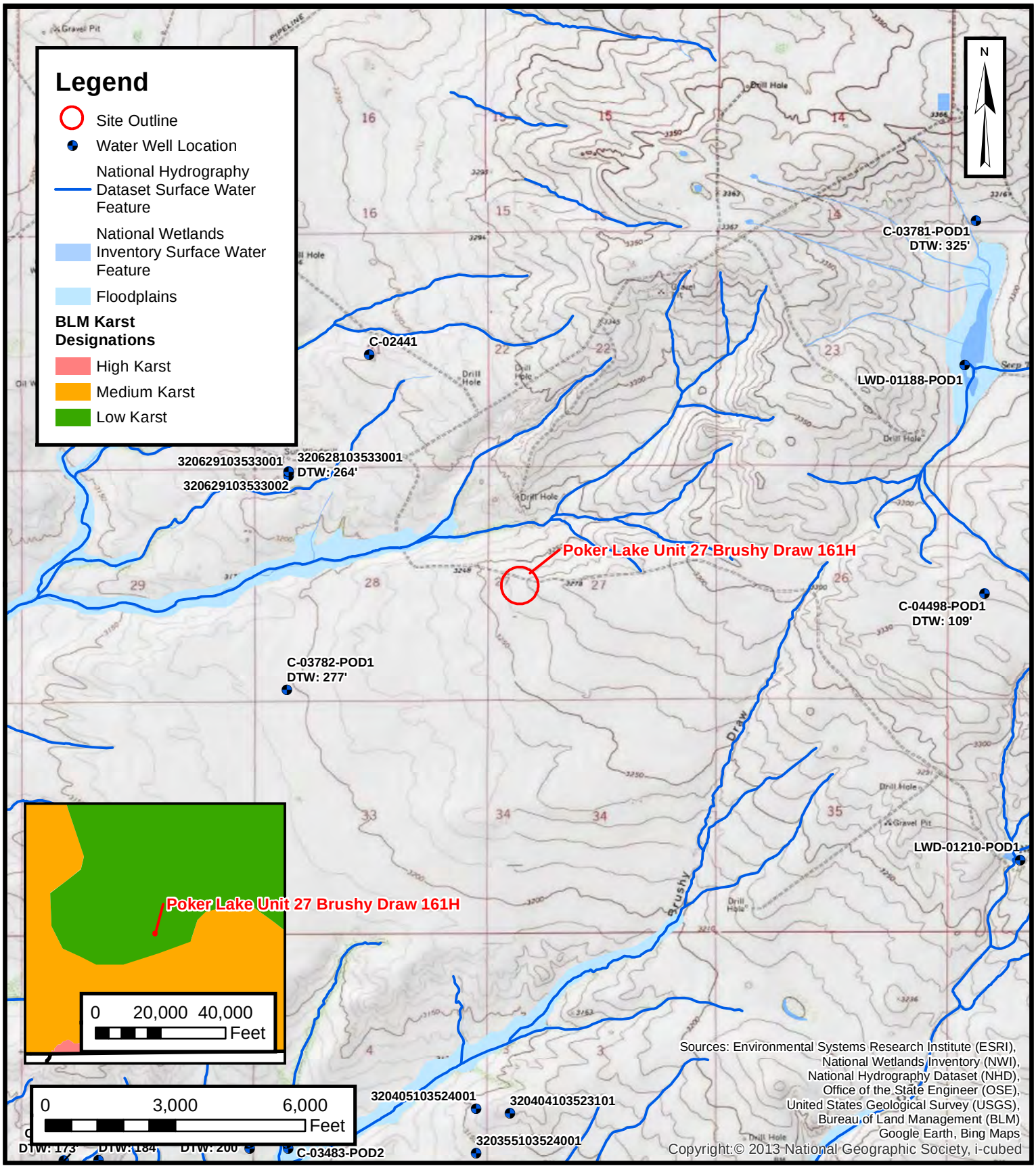
FIGURES

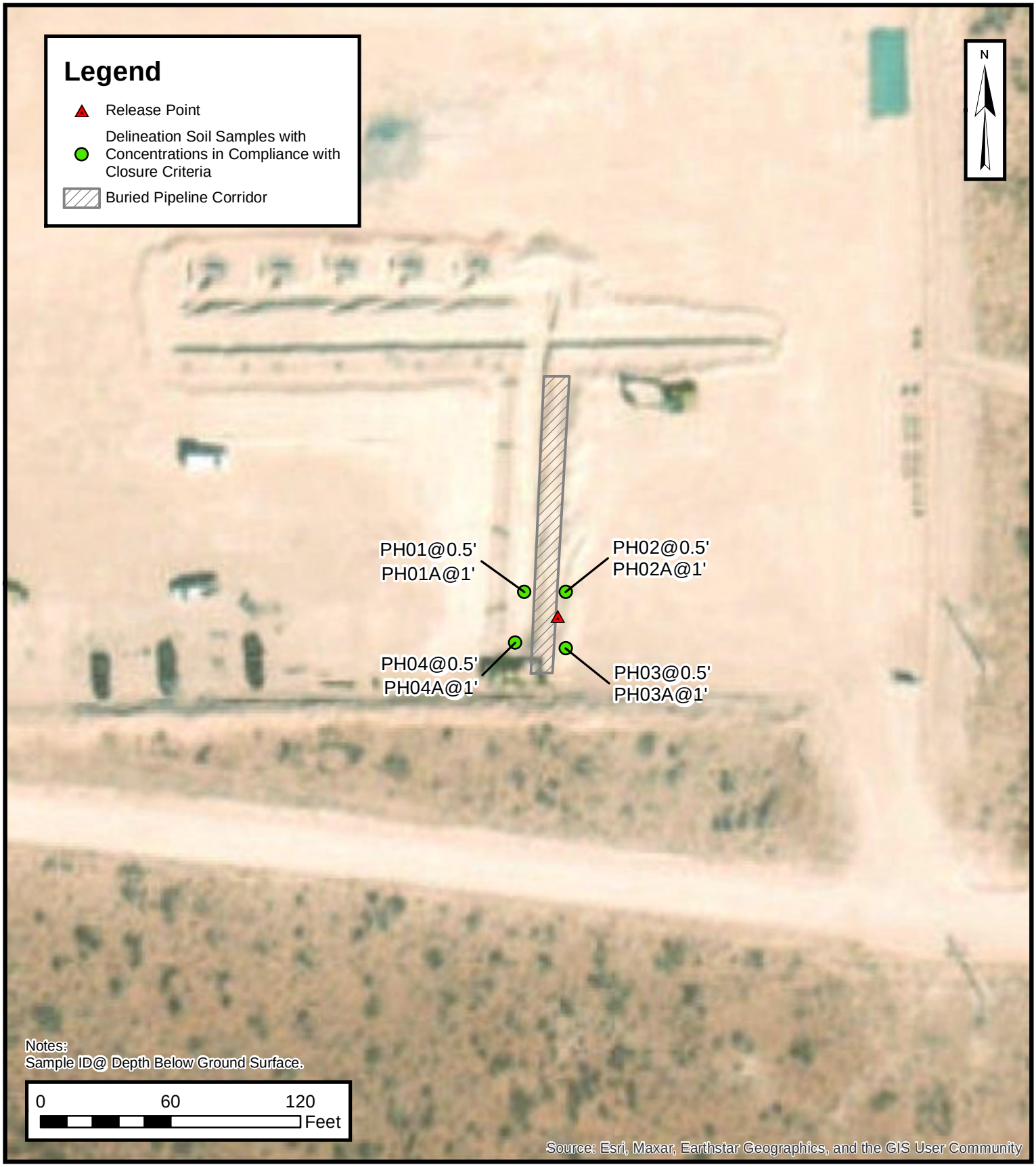


ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Receptor Map

XTO Energy, Inc
PLU 27 Brushy Draw 161H
NAPP2218943007
Unit L, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
1



ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Delineation Soil Sample Locations

XTO Energy, Inc
PLU 27 Brushy Draw 161H
NAPP2218943007
Unit L, Sec 27, T25S, R30E
Eddy County, New Mexico

FIGURE
2

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TABLES

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU 27 Brushy Draw 161H
XTO ENERGY INC
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Delineation Soil Samples										
PH01	12/13/2022	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	105
PH01A	12/13/2022	1	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	558
PH02	12/13/2022	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	284
PH02A	12/13/2022	1	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	3.03
PH03	12/13/2022	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	198
PH03A	12/13/2022	1	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	565
PH04	12/13/2022	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	249
PH04A	12/13/2022	1	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	347

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

ENSOLUM

APPENDIX A

Referenced Well Records

Click to hideNews Bulletins

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

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320628103533001

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

USGS 320628103533001 25S.30E.21.333424

Eddy County, New Mexico
Latitude 32°06'28", Longitude 103°53'30" NAD27
Land-surface elevation 3,207 feet above NAVD88
The depth of the well is 288 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1958-08-21		D	62610		2972.36	NGVD29	1	Z		
1958-08-21		D	62611		2974.00	NAVD88	1	Z		
1958-08-21		D	72019	233.00			1	Z		
1959-02-05		D	62610		2939.26	NGVD29	P	Z		
1959-02-05		D	62611		2940.90	NAVD88	P	Z		
1959-02-05		D	72019	266.10			P	Z		
1983-02-01		D	62610		2945.48	NGVD29	1	Z		
1983-02-01		D	62611		2947.12	NAVD88	1	Z		
1983-02-01		D	72019	259.88			1	Z		
1998-01-28		D	62610		2940.76	NGVD29	1	S		
1998-01-28		D	62611		2942.40	NAVD88	1	S		
1998-01-28		D	72019	264.60			1	S		

Explanation

Section	Code	Description

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

ENSOLUM

APPENDIX B

Photographic Log

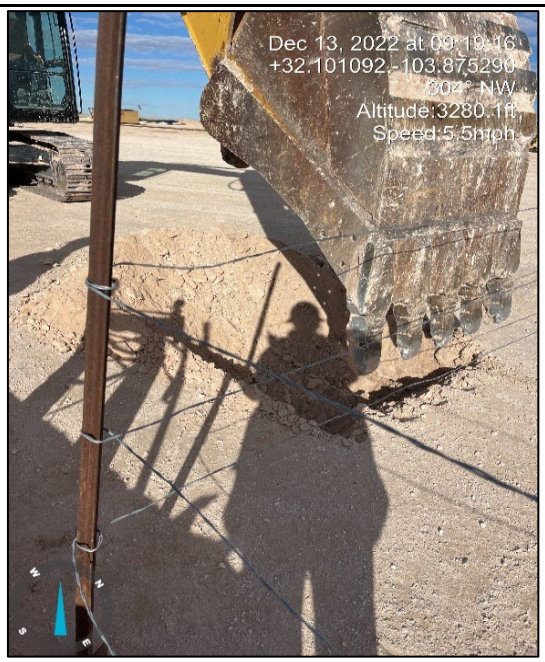
ENSOLUM

Photographic Log
XTO Energy, Inc
PLU 27 Brushy Draw 161H
Incident ID: NAPP2218943007

Photograph: 1 Date: 12/12/2022
Description: Site assessment, near release point.
View: North

Photograph: 2 Date: 12/13/2022
Description: Site conditions, near release point.
View: Northwest

Photograph: 3 Date: 12/13/2022
Description: Delineation activities, PH02
View: South



Photograph: 4 Date: 12/13/2022
Description: Delineation activities, PH04
View: Northwest

ENSOLUM

APPENDIX C

Lithologic Soil Sampling Logs

ENSOLUM

	Sample Name: PH01	Date: 12/13/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218943007	
	Job #: 03E1558093	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10109, -103.87514	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1', CALICHE w/ fine sand, dry, light brown, some sub-round gravel, no stain, no odor, fill.
D	<172.4	0.0	N	PH01	0.5	0.5		
D	364	0.0	N	PH01A	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

	Sample Name: PH02	Date: 12/13/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218943007	
	Job #: 03E1558093	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10109, -103.87514	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1', CALICHE w/ fine sand, dry, light brown, some sub-round gravel, no stain, no odor, fill.
D	207.2	0.0	N	PH02	0.5	0.5		
D	240.8	0.0	N	PH02A	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

	Sample Name: PH03	Date: 12/13/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218943007	
	Job #: 03E1558093	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10109, -103.87514	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1', CALICHE w/ fine sand, dry, light brown, some sub-round gravel, no stain, no odor, fill.
D	<172.4	0.0	N	PH03	0.5	0.5		
D	364	0.0	N	PH03A	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

	Sample Name: PH04	Date: 12/13/2022
	Site Name: PLU 27 Brushy Draw 161H	
	Incident Number: NAPP2218943007	
	Job #: 03E1558093	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: MR	Method: Trackhoe
Coordinates: 32.10109, -103.87514	Hole Diameter: N/A	Total Depth: 1'

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	0-1', CALICHE w/ fine sand, dry, light brown, some sub-round gravel, no stain, no odor, fill.
D	<172.4	0.0	N	PH04	0.5	0.5		
D	207.2	0.0	N	PH04A	1	1		
							TD	Total Depth at 1' bgs.

ENSOLUM

APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/4/2023 4:15:54 PM Revision 1

JOB DESCRIPTION

PLU 27 BRUSHY DRAW 161H
SDG NUMBER 03E1558093

JOB NUMBER

890-3647-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

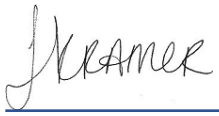
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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1/4/2023 4:15:54 PM
Revision 1

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

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Laboratory Job ID: 890-3647-1
SDG: 03E1558093

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-3647-1
Project/Site: PLU 27 BRUSHY DRAW 161H SDG: 03E1558093

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, 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/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Job ID: 890-3647-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3647-1

REVISION

The report being provided is a revision of the original report sent on 12/27/2022. The report (revision 1) is being revised due to Per client email requesting chloride re run on PH01A @ 1'.

Report revision history

Receipt
The samples were received on 12/13/2022 3:30 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 9.0°C

Receipt Exceptions
The following samples were received and analyzed from an unpreserved bulk soil jar: PH01 (890-3647-1), PH01A (890-3647-2), PH02 (890-3647-3), PH02A (890-3647-4), PH03 (890-3647-5), PH03A (890-3647-6), PH04 (890-3647-7) and PH04A (890-3647-8).

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

GC Semi VOA
Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41930 and analytical batch 880-41982 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: PH01A (890-3647-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-41930 and analytical batch 880-41982 was outside control limits. Sample non-homogeneity is suspected.

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-41942 and analytical batch 880-42078 was outside the upper control limits.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (890-3644-A-1-D). 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: PH04A (890-3647-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41924 and analytical batch 880-42328 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.The associated samples are: PH03 (890-3647-5), PH03A (890-3647-6), PH04 (890-3647-7), PH04A (890-3647-8) and (890-3647-A-5-B MS).

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-41925 and analytical batch 880-42330 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.The

Case Narrative

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Job ID: 890-3647-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

associated samples are: PH01 (890-3647-1), PH01A (890-3647-2), PH02 (890-3647-3), PH02A (890-3647-4), (890-3644-A-11-A), (890-3644-A-11-B MS) and (890-3644-A-11-C 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: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH01

Date Collected: 12/13/22 09:50
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		12/22/22 11:22	12/24/22 23:47	1
Toluene	<0.00201	U	0.00201		mg/Kg		12/22/22 11:22	12/24/22 23:47	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		12/22/22 11:22	12/24/22 23:47	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		12/22/22 11:22	12/24/22 23:47	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		12/22/22 11:22	12/24/22 23:47	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		12/22/22 11:22	12/24/22 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*12/22/22 11:22*	*12/24/22 23:47*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/22/22 11:22*	*12/24/22 23:47*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 03:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 03:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 03:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*12/15/22 14:22*	*12/17/22 03:19*	*1*
o-Terphenyl	*112*		*70 - 130*	*12/15/22 14:22*	*12/17/22 03:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**105**		4.95		mg/Kg			12/23/22 00:53	1

Client Sample ID: PH01A

Date Collected: 12/13/22 09:55
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		12/22/22 11:22	12/25/22 00:08	1
Toluene	<0.00198	U	0.00198		mg/Kg		12/22/22 11:22	12/25/22 00:08	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		12/22/22 11:22	12/25/22 00:08	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		12/22/22 11:22	12/25/22 00:08	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		12/22/22 11:22	12/25/22 00:08	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		12/22/22 11:22	12/25/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:08*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH01A

Date Collected: 12/13/22 09:55
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-2

Matrix: Solid

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:08*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396	mg/Kg			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/17/22 03:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/17/22 03:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/17/22 03:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*136*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/17/22 03:42*	*1*
o-Terphenyl	*127*		*70 - 130*	*12/15/22 14:22*	*12/17/22 03:42*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**558**		4.95	mg/Kg			01/04/23 14:30	1

Client Sample ID: PH02

Date Collected: 12/13/22 10:25
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 00:28	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 00:28	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 00:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/22 11:22	12/25/22 00:28	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 00:28	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/22 11:22	12/25/22 00:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:28*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:28*	*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			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:03	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH02
Date Collected: 12/13/22 10:25
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-3
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	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:04	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:04*	*1*
o-Terphenyl	*116*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:04*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**284**		24.9		mg/Kg			12/23/22 01:11	5

Client Sample ID: PH02A
Date Collected: 12/13/22 10:30
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-4
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		12/22/22 11:22	12/25/22 00:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 00:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 00:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/22 11:22	12/25/22 00:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 00:49	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/22 11:22	12/25/22 00:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:49*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*12/22/22 11:22*	*12/25/22 00:49*	*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			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:26*	*1*
o-Terphenyl	*101*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:26*	*1*

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH02A
Date Collected: 12/13/22 10:30
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-4
Matrix: Solid

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.03		0.253		mg/Kg			12/23/22 01:19	5

Client Sample ID: PH03
Date Collected: 12/13/22 10:10
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-5
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		12/22/22 11:22	12/25/22 01:09	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:09	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:09	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		12/22/22 11:22	12/25/22 01:09	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:09	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		12/22/22 11:22	12/25/22 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:09*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:09*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:48	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:48	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 04:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:48*	*1*
o-Terphenyl	*112*		*70 - 130*	*12/15/22 14:22*	*12/17/22 04:48*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	198	F1	5.00		mg/Kg			12/22/22 12:33	1

Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH03A

Date Collected: 12/13/22 10:15
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-6

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		12/22/22 11:22	12/25/22 01:29	1
Toluene	<0.00199	U	0.00199		mg/Kg		12/22/22 11:22	12/25/22 01:29	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		12/22/22 11:22	12/25/22 01:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		12/22/22 11:22	12/25/22 01:29	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		12/22/22 11:22	12/25/22 01:29	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		12/22/22 11:22	12/25/22 01:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:29*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:29*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			12/19/22 15:03	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 05:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 05:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		12/15/22 14:22	12/17/22 05:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*12/15/22 14:22*	*12/17/22 05:11*	*1*
o-Terphenyl	*106*		*70 - 130*	*12/15/22 14:22*	*12/17/22 05:11*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**565**		5.04		mg/Kg			12/22/22 12:59	1

Client Sample ID: PH04

Date Collected: 12/13/22 09:35
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-7

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		12/22/22 11:22	12/25/22 01:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:50	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		12/22/22 11:22	12/25/22 01:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/25/22 01:50	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		12/22/22 11:22	12/25/22 01:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:50*	*1*

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH04

Date Collected: 12/13/22 09:35
Date Received: 12/13/22 15:30
Sample Depth: 0.5

Lab Sample ID: 890-3647-7
Matrix: Solid

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*12/22/22 11:22*	*12/25/22 01:50*	*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			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9	mg/Kg			12/19/22 15:35	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	<49.9	U	49.9	mg/Kg		12/15/22 15:21	12/18/22 06:27	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9	mg/Kg		12/15/22 15:21	12/18/22 06:27	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9	mg/Kg		12/15/22 15:21	12/18/22 06:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*111*		*70 - 130*	*12/15/22 15:21*	*12/18/22 06:27*	*1*
o-Terphenyl	*123*		*70 - 130*	*12/15/22 15:21*	*12/18/22 06:27*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**249**		5.03	mg/Kg			12/22/22 13:08	1

Client Sample ID: PH04A

Date Collected: 12/13/22 09:40
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 02:10	1
Toluene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 02:10	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 02:10	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		12/22/22 11:22	12/25/22 02:10	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		12/22/22 11:22	12/25/22 02:10	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		12/22/22 11:22	12/25/22 02:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*12/22/22 11:22*	*12/25/22 02:10*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*12/22/22 11:22*	*12/25/22 02:10*	*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			12/26/22 16:25	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0	mg/Kg			12/19/22 15:35	1

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Client Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH04A

Date Collected: 12/13/22 09:40
Date Received: 12/13/22 15:30
Sample Depth: 1

Lab Sample ID: 890-3647-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/18/22 06:49	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/18/22 06:49	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/18/22 06:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*127*		*70 - 130*	*12/15/22 15:21*	*12/18/22 06:49*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*12/15/22 15:21*	*12/18/22 06:49*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**347**		5.05		mg/Kg			12/22/22 13:17	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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)
890-3647-1	PH01	95	103
890-3647-1 MS	PH01	126	111
890-3647-1 MSD	PH01	109	113
890-3647-2	PH01A	112	89
890-3647-3	PH02	101	103
890-3647-4	PH02A	122	96
890-3647-5	PH03	122	97
890-3647-6	PH03A	97	104
890-3647-7	PH04	98	97
890-3647-8	PH04A	100	105
LCS 880-42511/1-A	Lab Control Sample	123	98
LCSD 880-42511/2-A	Lab Control Sample Dup	124	111
MB 880-42511/5-A	Method Blank	94	106
MB 880-42588/7	Method Blank	90	98

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)
890-3644-A-1-E MS	Matrix Spike	104	104
890-3644-A-1-F MSD	Matrix Spike Duplicate	104	103
890-3646-A-1-C MS	Matrix Spike	98	88
890-3646-A-1-D MSD	Matrix Spike Duplicate	84	78
890-3647-1	PH01	117	112
890-3647-2	PH01A	136 S1+	127
890-3647-3	PH02	123	116
890-3647-4	PH02A	103	101
890-3647-5	PH03	119	112
890-3647-6	PH03A	112	106
890-3647-7	PH04	111	123
890-3647-8	PH04A	127	142 S1+
LCS 880-41930/2-A	Lab Control Sample	114	122
LCS 880-41942/2-A	Lab Control Sample	109	118
LCSD 880-41930/3-A	Lab Control Sample Dup	114	120
LCSD 880-41942/3-A	Lab Control Sample Dup	108	118
MB 880-41930/1-A	Method Blank	133 S1+	131 S1+
MB 880-41942/1-A	Method Blank	126	142 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-42511/5-A
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42511

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/24/22 23:27	1
Toluene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/24/22 23:27	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/24/22 23:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		12/22/22 11:22	12/24/22 23:27	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		12/22/22 11:22	12/24/22 23:27	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		12/22/22 11:22	12/24/22 23:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*	*12/22/22 11:22*	*12/24/22 23:27*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*12/22/22 11:22*	*12/24/22 23:27*	*1*

Lab Sample ID: LCS 880-42511/1-A
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42511

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1009		mg/Kg		101	70 - 130		
Toluene			0.100	0.1025		mg/Kg		102	70 - 130		
Ethylbenzene			0.100	0.1123		mg/Kg		112	70 - 130		
m-Xylene & p-Xylene			0.200	0.2445		mg/Kg		122	70 - 130		
o-Xylene			0.100	0.1218		mg/Kg		122	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-42511/2-A
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 42511

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1021		mg/Kg		102	70 - 130	1	35
Toluene			0.100	0.09678		mg/Kg		97	70 - 130	6	35
Ethylbenzene			0.100	0.1066		mg/Kg		107	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.2314		mg/Kg		116	70 - 130	5	35
o-Xylene			0.100	0.1159		mg/Kg		116	70 - 130	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3647-1 MS
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 42511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.09011		mg/Kg		90	70 - 130		
Toluene	<0.00201	U	0.100	0.08818		mg/Kg		88	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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

Lab Sample ID: 890-3647-1 MS
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 42511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.09693		mg/Kg		97	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2141		mg/Kg		107	70 - 130
o-Xylene	<0.00201	U	0.100	0.1055		mg/Kg		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

Lab Sample ID: 890-3647-1 MSD
Matrix: Solid
Analysis Batch: 42588

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 42511

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.08334		mg/Kg		84	70 - 130	8	35
Toluene	<0.00201	U	0.0998	0.07806		mg/Kg		78	70 - 130	12	35
Ethylbenzene	<0.00201	U	0.0998	0.08203		mg/Kg		82	70 - 130	17	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.1710		mg/Kg		86	70 - 130	22	35
o-Xylene	<0.00201	U	0.0998	0.08493		mg/Kg		85	70 - 130	22	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*113*		*70 - 130*

Lab Sample ID: MB 880-42588/7
Matrix: Solid
Analysis Batch: 42588

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg			12/24/22 12:34	1
Toluene	<0.00200	U	0.00200	mg/Kg			12/24/22 12:34	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg			12/24/22 12:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg			12/24/22 12:34	1
o-Xylene	<0.00200	U	0.00200	mg/Kg			12/24/22 12:34	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg			12/24/22 12:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*12/24/22 12:34*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*		*12/24/22 12:34*	*1*

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

Lab Sample ID: MB 880-41930/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41930

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0	mg/Kg		12/15/22 14:22	12/16/22 19:53	1

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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

Lab Sample ID: MB 880-41930/1-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 41930

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 14:22	12/16/22 19:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*12/15/22 14:22*	*12/16/22 19:53*	*1*

Lab Sample ID: LCS 880-41930/2-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 41930

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	961.8		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1013		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*122*		*70 - 130*

Lab Sample ID: LCSD 880-41930/3-A
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41930

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	979.2		mg/Kg		98	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1008		mg/Kg		101	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*120*		*70 - 130*

Lab Sample ID: 890-3646-A-1-C MS
Matrix: Solid
Analysis Batch: 41982

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41930

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 F2	999	1283		mg/Kg		128	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1005		mg/Kg		101	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*98*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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

Lab Sample ID: 890-3646-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 41982 — **Prep Batch: 41930**

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 F2	997	1006	F2	mg/Kg		101	70 - 130	24	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	889.7		mg/Kg		89	70 - 130	12	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*78*		*70 - 130*

Lab Sample ID: MB 880-41942/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42078 — **Prep Batch: 41942**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/17/22 22:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/17/22 22:54	1
Oll Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		12/15/22 15:21	12/17/22 22:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*12/15/22 15:21*	*12/17/22 22:54*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*12/15/22 15:21*	*12/17/22 22:54*	*1*

Lab Sample ID: LCS 880-41942/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42078 — **Prep Batch: 41942**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	848.4		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1024		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*109*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: LCSD 880-41942/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 42078 — **Prep Batch: 41942**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	831.8		mg/Kg		83	70 - 130	2	20
Diesel Range Organics (Over C10-C28)			1000	1011		mg/Kg		101	70 - 130	1	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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

Lab Sample ID: LCSD 880-41942/3-A
Matrix: Solid
Analysis Batch: 42078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 41942

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

Lab Sample ID: 890-3644-A-1-E MS
Matrix: Solid
Analysis Batch: 42078

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 41942

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	954.0		mg/Kg		93	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	1159		mg/Kg		114	70 - 130

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

Lab Sample ID: 890-3644-A-1-F MSD
Matrix: Solid
Analysis Batch: 42078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 41942

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	997	1038		mg/Kg		102	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	997	1144		mg/Kg		113	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41924/1-A
Matrix: Solid
Analysis Batch: 42328

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			12/22/22 12:07	1

Lab Sample ID: LCS 880-41924/2-A
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	274.8		mg/Kg		110	90 - 110

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 880-41924/3-A
Matrix: Solid
Analysis Batch: 42328

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	274.8		mg/Kg		110	90 - 110	0	20

Lab Sample ID: 890-3647-5 MS
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: PH03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	198	F1	250	495.3	F1	mg/Kg		119	90 - 110

Lab Sample ID: 890-3647-5 MSD
Matrix: Solid
Analysis Batch: 42328

Client Sample ID: PH03
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	198	F1	250	469.1		mg/Kg		108	90 - 110	5	20

Lab Sample ID: MB 880-41925/1-A
Matrix: Solid
Analysis Batch: 42330

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			12/22/22 20:57	1

Lab Sample ID: LCS 880-41925/2-A
Matrix: Solid
Analysis Batch: 42330

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	268.0		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-41925/3-A
Matrix: Solid
Analysis Batch: 42330

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	266.1		mg/Kg		106	90 - 110	1	20

Lab Sample ID: 890-3644-A-11-B MS
Matrix: Solid
Analysis Batch: 42330

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	165	F1	249	505.8	F1	mg/Kg		137	90 - 110

Lab Sample ID: 890-3644-A-11-C MSD
Matrix: Solid
Analysis Batch: 42330

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	165	F1	249	484.9	F1	mg/Kg		129	90 - 110	4	20

QC Sample Results

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-43131/1-A
Matrix: Solid
Analysis Batch: 43169

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/04/23 12:33	1

Lab Sample ID: LCS 880-43131/2-A
Matrix: Solid
Analysis Batch: 43169

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	254.5		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-43131/3-A
Matrix: Solid
Analysis Batch: 43169

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	254.7		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 880-23271-A-1-B MS
Matrix: Solid
Analysis Batch: 43169

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	12.0		252	272.9		mg/Kg		104	90 - 110		

Lab Sample ID: 880-23271-A-1-C MSD
Matrix: Solid
Analysis Batch: 43169

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	12.0		252	273.9		mg/Kg		104	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

GC VOA

Prep Batch: 42511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	5035	
890-3647-2	PH01A	Total/NA	Solid	5035	
890-3647-3	PH02	Total/NA	Solid	5035	
890-3647-4	PH02A	Total/NA	Solid	5035	
890-3647-5	PH03	Total/NA	Solid	5035	
890-3647-6	PH03A	Total/NA	Solid	5035	
890-3647-7	PH04	Total/NA	Solid	5035	
890-3647-8	PH04A	Total/NA	Solid	5035	
MB 880-42511/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-42511/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-42511/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3647-1 MS	PH01	Total/NA	Solid	5035	
890-3647-1 MSD	PH01	Total/NA	Solid	5035	

Analysis Batch: 42588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	8021B	42511
890-3647-2	PH01A	Total/NA	Solid	8021B	42511
890-3647-3	PH02	Total/NA	Solid	8021B	42511
890-3647-4	PH02A	Total/NA	Solid	8021B	42511
890-3647-5	PH03	Total/NA	Solid	8021B	42511
890-3647-6	PH03A	Total/NA	Solid	8021B	42511
890-3647-7	PH04	Total/NA	Solid	8021B	42511
890-3647-8	PH04A	Total/NA	Solid	8021B	42511
MB 880-42511/5-A	Method Blank	Total/NA	Solid	8021B	42511
MB 880-42588/7	Method Blank	Total/NA	Solid	8021B	
LCS 880-42511/1-A	Lab Control Sample	Total/NA	Solid	8021B	42511
LCSD 880-42511/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	42511
890-3647-1 MS	PH01	Total/NA	Solid	8021B	42511
890-3647-1 MSD	PH01	Total/NA	Solid	8021B	42511

Analysis Batch: 42610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	Total BTEX	
890-3647-2	PH01A	Total/NA	Solid	Total BTEX	
890-3647-3	PH02	Total/NA	Solid	Total BTEX	
890-3647-4	PH02A	Total/NA	Solid	Total BTEX	
890-3647-5	PH03	Total/NA	Solid	Total BTEX	
890-3647-6	PH03A	Total/NA	Solid	Total BTEX	
890-3647-7	PH04	Total/NA	Solid	Total BTEX	
890-3647-8	PH04A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 41930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	8015NM Prep	
890-3647-2	PH01A	Total/NA	Solid	8015NM Prep	
890-3647-3	PH02	Total/NA	Solid	8015NM Prep	
890-3647-4	PH02A	Total/NA	Solid	8015NM Prep	
890-3647-5	PH03	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

GC Semi VOA (Continued)

Prep Batch: 41930 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-6	PH03A	Total/NA	Solid	8015NM Prep	
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Prep Batch: 41942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-7	PH04	Total/NA	Solid	8015NM Prep	
890-3647-8	PH04A	Total/NA	Solid	8015NM Prep	
MB 880-41942/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-41942/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-41942/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3644-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3644-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 41982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	8015B NM	41930
890-3647-2	PH01A	Total/NA	Solid	8015B NM	41930
890-3647-3	PH02	Total/NA	Solid	8015B NM	41930
890-3647-4	PH02A	Total/NA	Solid	8015B NM	41930
890-3647-5	PH03	Total/NA	Solid	8015B NM	41930
890-3647-6	PH03A	Total/NA	Solid	8015B NM	41930
MB 880-41930/1-A	Method Blank	Total/NA	Solid	8015B NM	41930
LCS 880-41930/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41930
LCSD 880-41930/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41930
890-3646-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	41930
890-3646-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41930

Analysis Batch: 42078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-7	PH04	Total/NA	Solid	8015B NM	41942
890-3647-8	PH04A	Total/NA	Solid	8015B NM	41942
MB 880-41942/1-A	Method Blank	Total/NA	Solid	8015B NM	41942
LCS 880-41942/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	41942
LCSD 880-41942/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	41942
890-3644-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	41942
890-3644-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	41942

Analysis Batch: 42192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Total/NA	Solid	8015 NM	
890-3647-2	PH01A	Total/NA	Solid	8015 NM	
890-3647-3	PH02	Total/NA	Solid	8015 NM	
890-3647-4	PH02A	Total/NA	Solid	8015 NM	
890-3647-5	PH03	Total/NA	Solid	8015 NM	
890-3647-6	PH03A	Total/NA	Solid	8015 NM	
890-3647-7	PH04	Total/NA	Solid	8015 NM	
890-3647-8	PH04A	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

HPLC/IC

Leach Batch: 41924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-5	PH03	Soluble	Solid	DI Leach	
890-3647-6	PH03A	Soluble	Solid	DI Leach	
890-3647-7	PH04	Soluble	Solid	DI Leach	
890-3647-8	PH04A	Soluble	Solid	DI Leach	
MB 880-41924/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3647-5 MS	PH03	Soluble	Solid	DI Leach	
890-3647-5 MSD	PH03	Soluble	Solid	DI Leach	

Leach Batch: 41925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Soluble	Solid	DI Leach	
890-3647-3	PH02	Soluble	Solid	DI Leach	
890-3647-4	PH02A	Soluble	Solid	DI Leach	
MB 880-41925/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-41925/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-41925/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3644-A-11-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3644-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 42328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-5	PH03	Soluble	Solid	300.0	41924
890-3647-6	PH03A	Soluble	Solid	300.0	41924
890-3647-7	PH04	Soluble	Solid	300.0	41924
890-3647-8	PH04A	Soluble	Solid	300.0	41924
MB 880-41924/1-A	Method Blank	Soluble	Solid	300.0	41924
LCS 880-41924/2-A	Lab Control Sample	Soluble	Solid	300.0	41924
LCSD 880-41924/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41924
890-3647-5 MS	PH03	Soluble	Solid	300.0	41924
890-3647-5 MSD	PH03	Soluble	Solid	300.0	41924

Analysis Batch: 42330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-1	PH01	Soluble	Solid	300.0	41925
890-3647-3	PH02	Soluble	Solid	300.0	41925
890-3647-4	PH02A	Soluble	Solid	300.0	41925
MB 880-41925/1-A	Method Blank	Soluble	Solid	300.0	41925
LCS 880-41925/2-A	Lab Control Sample	Soluble	Solid	300.0	41925
LCSD 880-41925/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	41925
890-3644-A-11-B MS	Matrix Spike	Soluble	Solid	300.0	41925
890-3644-A-11-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	41925

Leach Batch: 43131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-2	PH01A	Soluble	Solid	DI Leach	
MB 880-43131/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-43131/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-43131/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-23271-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

HPLC/IC (Continued)

Leach Batch: 43131 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-23271-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 43169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3647-2	PH01A	Soluble	Solid	300.0	43131
MB 880-43131/1-A	Method Blank	Soluble	Solid	300.0	43131
LCS 880-43131/2-A	Lab Control Sample	Soluble	Solid	300.0	43131
LCSD 880-43131/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	43131
880-23271-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	43131
880-23271-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	43131

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH01
Date Collected: 12/13/22 09:50
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/24/22 23:47	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 03:19	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	41925	12/15/22 14:17	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42330	12/23/22 00:53	SMC	EET MID

Client Sample ID: PH01A
Date Collected: 12/13/22 09:55
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-2
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			5.05 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 00:08	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 03:42	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	43131	01/04/23 11:00	KS	EET MID
Soluble	Analysis	300.0		1			43169	01/04/23 14:30	CH	EET MID

Client Sample ID: PH02
Date Collected: 12/13/22 10:25
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-3
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			5.02 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 00:28	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 04:04	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	41925	12/15/22 14:17	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42330	12/23/22 01:11	SMC	EET MID

Client Sample ID: PH02A
Date Collected: 12/13/22 10:30
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 00:49	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH02A
Date Collected: 12/13/22 10:30
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-4
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			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 04:26	SM	EET MID
Soluble	Leach	DI Leach			495 g	50 mL	41925	12/15/22 14:17	KS	EET MID
Soluble	Analysis	300.0		5	50 mL	50 mL	42330	12/23/22 01:19	SMC	EET MID

Client Sample ID: PH03
Date Collected: 12/13/22 10:10
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 01:09	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 04:48	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 12:33	SMC	EET MID

Client Sample ID: PH03A
Date Collected: 12/13/22 10:15
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 01:29	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:03	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	41930	12/15/22 14:22	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	41982	12/17/22 05:11	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 12:59	SMC	EET MID

Client Sample ID: PH04
Date Collected: 12/13/22 09:35
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 01:50	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	41942	12/15/22 15:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42078	12/18/22 06:27	SM	EET MID

Lab Chronicle

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Client Sample ID: PH04
Date Collected: 12/13/22 09:35
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 13:08	SMC	EET MID

Client Sample ID: PH04A
Date Collected: 12/13/22 09:40
Date Received: 12/13/22 15:30

Lab Sample ID: 890-3647-8
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	42511	12/22/22 11:22	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	42588	12/25/22 02:10	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			42610	12/26/22 16:25	AJ	EET MID
Total/NA	Analysis	8015 NM		1			42192	12/19/22 15:35	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	41942	12/15/22 15:21	DM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	42078	12/18/22 06:49	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	41924	12/15/22 14:15	KS	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	42328	12/22/22 13:17	SMC	EET MID

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

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	MCAWW	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

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU 27 BRUSHY DRAW 161H

Job ID: 890-3647-1
SDG: 03E1558093

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3647-1	PH01	Solid	12/13/22 09:50	12/13/22 15:30	0.5
890-3647-2	PH01A	Solid	12/13/22 09:55	12/13/22 15:30	1
890-3647-3	PH02	Solid	12/13/22 10:25	12/13/22 15:30	0.5
890-3647-4	PH02A	Solid	12/13/22 10:30	12/13/22 15:30	1
890-3647-5	PH03	Solid	12/13/22 10:10	12/13/22 15:30	0.5
890-3647-6	PH03A	Solid	12/13/22 10:15	12/13/22 15:30	1
890-3647-7	PH04	Solid	12/13/22 09:35	12/13/22 15:30	0.5
890-3647-8	PH04A	Solid	12/13/22 09:40	12/13/22 15:30	1

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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 Nat'l Parks Hwy	Address:	3104 E Greene St
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852 Email: bbelill@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:	Plu27 Brushy Draw 161H	Turn Around	
Project Number:	03E1558093	☑ Routine ☐ Rush	
Project Location:	32.10165, -103.87622	Due Date:	
Sampler's Name:	Meredith Roberts	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	9.2
Total Containers:		Corrected Temperature:	9.0

ANALYSIS REQUEST

Pres. Code

Parameters: Chlorides | BTEX | TPH

890-3647 Chain of Custody

Preservative Codes

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Chlorides	BTEX	TPH	Sample Comments
PH01	S	12/13/22	0950	0.5'	G	1	X	X	X	SOUTH - these sample jars have "South" after name
PH01A			0955	1'						
PH02			1025	0.5'						
PH02A			1030	1'						
PH03			1010	0.5'						
PH03A			1015	1'						
PH04			0935	0.5'						
PH04A			0940	1'						

ME

Incident #: NAPP2218943007

Cost Center: 1666961001

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12.13.22 1580	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3647-1
Address: 1211 W Florida Ave	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701	PO #:			
Phone: 432-704-5440(Tel)	WO #:			
Email				
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B NaOH, C - Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G - Amchlor, H Ascorbic Acid, I - Ice, J DI Water, K EDTA, L EDA, M Hexane, N - None, O AsNaO2, P - Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T - TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y - Trizma, Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
PH01 S (890-3647-1)	12/13/22	09 50 Mountain		Solid			X	X	X	X	X	1	
PH01A S (890-3647-2)	12/13/22	09 55 Mountain		Solid			X	X	X	X	X	1	
PH02 S (890-3647-3)	12/13/22	10 25 Mountain		Solid			X	X	X	X	X	1	
PH02A S (890-3647-4)	12/13/22	10 30 Mountain		Solid			X	X	X	X	X	1	
PH03 S (890-3647-5)	12/13/22	10 10 Mountain		Solid			X	X	X	X	X	1	
PH03A S (890-3647-6)	12/13/22	10 15 Mountain		Solid			X	X	X	X	X	1	
PH04 S (890-3647-7)	12/13/22	09 35 Mountain		Solid			X	X	X	X	X	1	
PH04A S (890-3647-8)	12/13/22	09 40 Mountain		Solid			X	X	X	X	X	1	

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

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

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

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

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

Ver: 06/08/2021

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

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1064 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-3647-1
Address: 1211 W Florida Ave,	Due Date Requested: 12/19/2022			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: PLU 27 BRUSHY DRAW 161H	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D - Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H - Ascorbic Acid, I Ice, J - DI Water, K EDTA, L EDA, M - Hexane, N None, O - AsNaO2, P Na2O4S, Q - Na2SO3, R Na2S2O3, S - H2SO4, T TSP Dodecahydrate, U - Acetone, V MCAA, W - pH 4-5, Y Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016MOD_NM/8016NM_S_Prep (MOD) Full TPH	8016MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
Preservation Code:													
PH01 S (890-3647-1)	12/13/22	09 50 Mountain		Solid			X	X	X	X	X	1	
PH01A S (890-3647-2)	12/13/22	09 55 Mountain		Solid			X	X	X	X	X	1	
PH02 S (890-3647-3)	12/13/22	10 25 Mountain		Solid			X	X	X	X	X	1	
PH02A S (890-3647-4)	12/13/22	10 30 Mountain		Solid			X	X	X	X	X	1	
PH03 S (890-3647-5)	12/13/22	10 10 Mountain		Solid			X	X	X	X	X	1	
PH03A S (890-3647-6)	12/13/22	10 15 Mountain		Solid			X	X	X	X	X	1	
PH04 S (890-3647-7)	12/13/22	09 35 Mountain		Solid			X	X	X	X	X	1	
PH04A S (890-3647-8)	12/13/22	09 40 Mountain		Solid			X	X	X	X	X	1	

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

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

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

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

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3647-1
SDG Number: 03E1558093

Login Number: 3647
List Number: 1
Creator: Clifton, Cloe

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: 890-3647-1
SDG Number: 03E1558093

Login Number: 3647
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 12/15/22 11:29 AM

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

ENSOLUM

APPENDIX E

NMOCD Notifications

Collins, Melanie

From: Green, Garrett J
Sent: Sunday, June 26, 2022 2:25 PM
To: ocd.enviro@state.nm.us; Bratcher, Mike, EMNRD; Hamlet, Robert, EMNRD; Nobui, Jennifer, EMNRD
Cc: Pennington, Shelby G; DelawareSpills /SM
Subject: XTO 24 Hour Notification - PLU 27 BD 161 - 6-25-22

All,

This is notification of a release greater than 25 barrels that occurred yesterday at the PLU 27 BD 161 near the GPS coordinates given below. Most of the fluids remained in containment and all standing fluids were recovered by vacuum truck. Details will be provided with a form C-141. Please contact us with any questions or concerns.

GPS: 32.101099 ,-103.875143

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

Tacoma Morrissey

From: Kalei Jennings
Sent: Monday, September 12, 2022 9:31 AM
To: Tacoma Morrissey
Subject: FW: (Extension Approval) - XTO - PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

FYI

Kalei Jennings
Senior Scientist
817-683-2503
Ensolum, LLC

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Monday, September 12, 2022 8:59 AM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Kalei Jennings <kjennings@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: (Extension Approval) - XTO - PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

[**EXTERNAL EMAIL**]

RE: Incident **#NAPP2217546910, NAPP2218236445, NAPP2218943007**

Melanie,

Your request for an extension to **December 9th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure reports.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Friday, September 9, 2022 3:12 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Kalei Jennings <kjennings@ensolum.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Pennington, Shelby G <shelby.g.pennington@exxonmobil.com>
Subject: [EXTERNAL] XTO - Extension Requests PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

All,

PLU 27 Brushy Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)

XTO is requesting an extension for the current deadlines of September 10, 2022, September 20, 2022, and September 23, 2022 for submitting a remediation work plan, closure, or deferral report required in 19.15.29.12.B.(1) NMAC at the PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007)**.** The releases occurred on June 12, 2022, June 22, 2022, and June 25, 2022, respectively. Fluids were released into containment and onto pad during frac operations. Initial assessment of the releases has not been completed. Remediation activities cannot proceed until frac operations are complete. XTO operations will provide status updates and indicate when the Site is clear for remediation activities to commence.

Due to all three releases occurring on the same pad, delineation and remediation activities are scheduled to be completed concurrently. XTO requests to extend the deadline to complete remediation activities and submit a closure or deferral report for Incident Numbers NAPP2217546910, NAPP2218236445, NAPP2218943007 to December 9, 2022, which is a 90-day extension of the due date for the first release.

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

Tacoma Morrissey

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, December 8, 2022 10:38 AM
To: ocd.enviro@emnrd.nm.gov; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Cc: DelawareSpills /SM; Tacoma Morrissey
Subject: XTO - Sampling Notification (Week of 12/12/22 - 12/16/22)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the following sites the week of Dec 12, 2022.

- PLU 27 BD 161H / nAPP2217546910, nAPP2218236445, nAPP2218943007
- PLU 18 TWR Sat Battery/ nAPP2230551957
- Pickett Draw Federal #001/ NAB1919955454

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

Tacoma Morrissey

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, December 29, 2022 10:35 AM
To: Green, Garrett J; Collins, Melanie
Cc: DelawareSpills /SM; Ashley Ager; Tacoma Morrissey; Ben Belill; Kalei Jennings; Stuart Hyde; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Extension Denied) XTO -PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

[**EXTERNAL EMAIL**]

RE: Incident #**NAPP2217546910**

Garrett,

An extension for these releases have already been granted. Your request for another extension is **denied**. Include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Wednesday, December 28, 2022 8:52 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: [EXTERNAL] RE: XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

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

Mr. Hamlet,

As requested, please see the attached laboratory analytical reports and the Form C-141 detailing the Site Characterization. The analytical reports include results from soil samples collected from the release extent during the initial site assessment conducted on December 7, 2022, immediately following the completion of XTO flowback

operations. More extensive delineation activities were conducted on December 12, 2022 and December 13, 2022, but analytical data is currently pending.

NMOCD should note that there were multiple releases, all of which occurred on pad. Initial surface samples collected within one release extent met the most stringent closure criteria. Initial samples from a second release contained chloride concentrations ranging from 621 mg/kg to 6,580 mg/kg, which met Table I closure criteria.

As explained above, we have not received all delineation analytical results but results from the initial assessment indicate four lateral delineation samples were below the most stringent closure criteria and the release stayed on pad.

In order to review pending laboratory analytical results from the delineation event and submit a Closure Request or Remediation Work Plan for Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007, XTO requests a shorter, 30-day extension until January 22, 2022.

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: Hamlet, Robert, EMNRD [mailto:Robert.Hamlet@emnrd.nm.gov]
Sent: Friday, December 9, 2022 10:37 AM
To: Collins, Melanie <melanie.collins@exxonmobil.com>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

Melanie,

An extension for these releases has already been granted. We are almost at 180 days from the release dates. The OCD requests a Site Assessment/Characterization before another extension can be granted. Please email the Site Assessment with soil sample results after the lab samples come back. At that point we can take a look at granting another extension.

Regards,

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau

EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Collins, Melanie <melanie.collins@exxonmobil.com>
Sent: Friday, December 9, 2022 10:18 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>; Green, Garrett J <garrett.green@exxonmobil.com>; Ashley Ager <aager@ensolum.com>; Tacoma Morrissey <tmorrissey@ensolum.com>; bbelill@ensolum.com; Kalei Jennings <kjennings@ensolum.com>; shyde@ensolum.com
Subject: [EXTERNAL] XTO-Extension Request-PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

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

All,

PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)

XTO is requesting an extension for the current deadline of December 9, 2022 for submitting a remediation work plan, closure, or deferral report required in 19.15.29.12.B.(1) NMAC at the PLU 27 Brush Draw 161H (Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007)**.** The releases occurred on June 12, 2022, June 22, 2022, and June 25, 2022, respectively. Fluids were released into a temporary containment and onto the well pad during frac operations. Remediation activities have been delayed due to XTO flowback operations onsite. XTO flowback operations cleared the site on December 5, 2022. An initial site assessment of the releases was completed on December 6, 2022 and analytical data is currently pending. Excavation activities are scheduled to begin December 12, 2022. XTO requests to extend the deadline to complete remediation activities and submit a closure or deferral report for Incident Numbers NAPP2217546910, NAPP2218236445, and NAPP2218943007 to February 7, 2022, which is a 60-day extension of the current due date.

Thank you,

Melanie Collins
XTO ENERGY
Environmental Technician
melanie.collins@exxonmobil.com
432-556-3756

ENSOLUM

APPENDIX F

Friction Reducer SDS

PFP INDUSTRIES

SAFETY DATA SHEET

Issuing Date 01-Aug-2019 **Revision Date** 01-Aug-2019 **Revision Number** 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name POLYglide Xcel-200

Other means of identification

Product Code(s) 10497

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Manufacturer Address
PfP Industries
29738 Goynes Rd.
Katy, TX 77493

Emergency telephone number

Company Phone Number 281-371-2000

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Warning

Combustible liquid

Appearance Opaque	**Physical state** Liquid	**Odor** Mineral Oil

Precautionary Statements - Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Information
May be harmful in contact with skin
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No	Weight-%	Trade secret
Petroleum distillates, hydrotreated light	64742-47-8	40 - 70	

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Opaque
Color	Milky white to yellow
Odor	Mineral Oil
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	>= 67 °C / 153 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	0.97 - 1.03	
Water solubility	Miscible in water	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	≥150 mm²/s	
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	5,005.00 mg/kg
ATEmix (dermal)	2,002.00 mg/kg
ATEmix (inhalation-dust/mist)	5.20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Petroleum distillates, hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated light 64742-47-8	-	2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.2: 96 h Lepomis macrochirus mg/L LC50 static	-	4720: 96 h Den-dronereides heteropoda mg/L LC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated. Product does not sustain combustion (49 CFR 173.120(b)(3))

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS	Complies
AICS	Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

US State Regulations This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards**	2	**Flammability**	2	**Instability** 0	**Physical and chemical properties**	-
HMIS	**Health hazards**	2	**Flammability**	2	**Physical hazards** 0	**Personal protection**	X

Issuing Date 01-Aug-2019

Revision Date 01-Aug-2019

Revision Note No information available.

Disclaimer

The data supplied herein is for use only in connection with occupational safety and health. The information provided in this Safety Data Sheet is believed to be correct as of the date issued. Updates to this information may be obtained by contacting (either reference contact location or website). PfP Industries MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. This information is not meant to be an all-inclusive document on worldwide hazard communication regulations. Each user of the material described herein must evaluate the conditions of use and design, many of which will be solely within the user's knowledge and control, and the appropriate protective actions, including proper notification and training of employees, necessary to prevent employee exposures, property damage or release to the environment.

End of Safety Data Sheet

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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

CONDITIONS

Action 177226

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 177226
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2218943007 PLU 27 BRUSHY DRAW 161H, thank you. This closure is approved.	5/18/2023