ENSOLUM

October 14, 2024

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

**Re: Closure Request**
**James Ranch Unit DI 2 CTB**
**Incident Number nAPP2420431165**
**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, excavation, and soil sampling activities at the James Ranch Unit DI 2 CTB (Site). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following a release of produced water onto the facility pad. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this *Closure Request*, describing site assessment, excavation, and delineation activities that have occurred and requesting no further action for Incident Number nAPP2420431165.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit K, Section 25, Township 22 South, Range 30 East, in Eddy County, New Mexico (32.3619408°, -103.8380243°) and is associated with oil and gas exploration and production operations on Bureau of Land Management (BLM) Federal Land.

On July 20, 2024, a swedge and clamp washed out resulting in the release of approximately 49 barrels (bbls) of produced water onto the pad surface. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; 5 bbls of released produced water were recovered. XTO reported the release to the NMOCD via Notification of Release (NOR) on July 22, 2024, and submitted an Initial C-141 Application (C-141) on July 23, 2024. The release was assigned Incident Number nAPP2420431165.

## SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented below. Potential site receptors are identified on Figure 1.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring drilled for determination of regional groundwater depth. On April 14, 2023, a soil boring permitted by New Mexico Office of the State Engineer (OSE) well C-4731, located approximately 270 feet south of the Site was drilled utilizing a truck-mounted air rotary rig. The boring was drilled to a total depth of 106 feet bgs. A field geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The borehole was left open for over 72 hours to

allow for the potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater at that location is greater than 106 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. The Well Record and Log is included in Appendix A. All wells used to evaluate depth to groundwater are presented on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a dry wash, located approximately 5,150 feet northeast 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).

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 AND DELINEATION ACTIVITIES

On July 25, 2024, Ensolum personnel visited the Site to evaluate the release extent based on information provided on the C-141 and visual observations. Four assessment soil samples (SS01 through SS04) were collected around the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of the release. The soil samples were field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The release extent and assessment soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation is included in Appendix B.

On August 7, 2024, Ensolum personnel returned to the Site to complete delineation activities. Delineation boreholes BH01 and BH02 were advanced via hand auger to maximum depths of 3 feet bgs within the release extent to assess the vertical extent of the release. Delineation soil samples were collected from each borehole at depths ranging form 0.5 feet to 3 feet bgs. Soil from the delineation boreholes was field screeded for VOCs and chloride. Field screening results and observations for the boreholes were logged on lithologic/soil sampling logs, which are included in Appendix C. The delineation soil sample locations are depicted on Figure 2.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following contaminants of concern (COCs): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following Standards Method SM4500.

Laboratory analytical results for assessment soil samples SS01 through SS04 indicated that all COC concentrations were compliant with the Closure Criteria and the strictest Table I Closure Critieria, successfully defining the lateral extent of the release. Laboratory analytical results for delineation soil samples for BH01 and BH02 indicated all COC concentrations were compliance with Site Closure Criteria but exceeded the strictest Table I Closure Criteria for chloride in the top 4 feet. Based on visible staining in the release area and laboratory analytical results from within the release, excavation activities were warranted.

## EXCAVATION SOIL SAMPLING ACTIVITIES

On September 24 and 25, 2024, Ensolum personnel were at the Site to oversee excavation activities. Waste-containing soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results for the delineation soil samples. Excavation activities were performed using a backhoe and transport vehicle. The excavation occurred on the well pad near production equipment and XTO safety policy restricts soil disturbing activities within a 2-foot radius of any active production equipment. To direct excavation activities, Ensolum personnel screened soil for VOCs and chloride. Following removal of impacted soil to the maximum extent possible, Ensolum personnel collected 5-point composite soil samples representing no more than 200 square feet from the sidewalls and floor of the excavation. The 5-point composite soil samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Confirmation soil samples FS01 through FS07 were collected from the floor of the excavation at depths ranging from 3 feet to 4 feet bgs. Confirmation sidewall soil samples SW01 and SW05 were collected from the sidewalls of the excavation at depths ranging from ground surface to 4 feet bgs. The confirmation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and confirmation soil sample locations are presented on Figure 3.

The final excavation extent measured approximately 1,198 square feet. A total of approximately 160 cubic yards of waste-containing soil was removed during the excavation activities. The waste-containing soil was transported and properly disposed of at the R360 Landfill in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

## LABORATORY ANALYTICAL RESULTS

Laboratory analytical results for the confirmation floor soil samples FS01 through FS07 and sidewall soil samples SW01 through SW05, collected at depths ranging from ground surface to 4 feet bgs indicated that all COC concentrations were compliant with the Closure Criteria. Additionally, the confirmation sidewall soil samples collected from ground surface to 4 feet bgs indicated all COC concentrations were compliant with the strictest Table I Closure Criteria and confirmed the lateral extent of the release. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Appendix D.

## CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the July 20, 2024, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that all COC concentrations were compliant with the Site Closure Criteria. In addition, all waste-containing soil was removed from the top 4 feet of the release area. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. Due to the

release occurring onto the pad surface, final reclamation of the pad surface will be completed during pad abandonment.

Excavation of waste-containing soil has mitigated potential impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2420431165.

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

Sincerely,
**Ensolum, LLC**

Tracy Hillard
Project Engineer

Tacoma Morrissey
Associate Principal

cc: Colton Brown, XTO
Kaylan Dirkx, XTO
Bureau of Land Management

Appendices:

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

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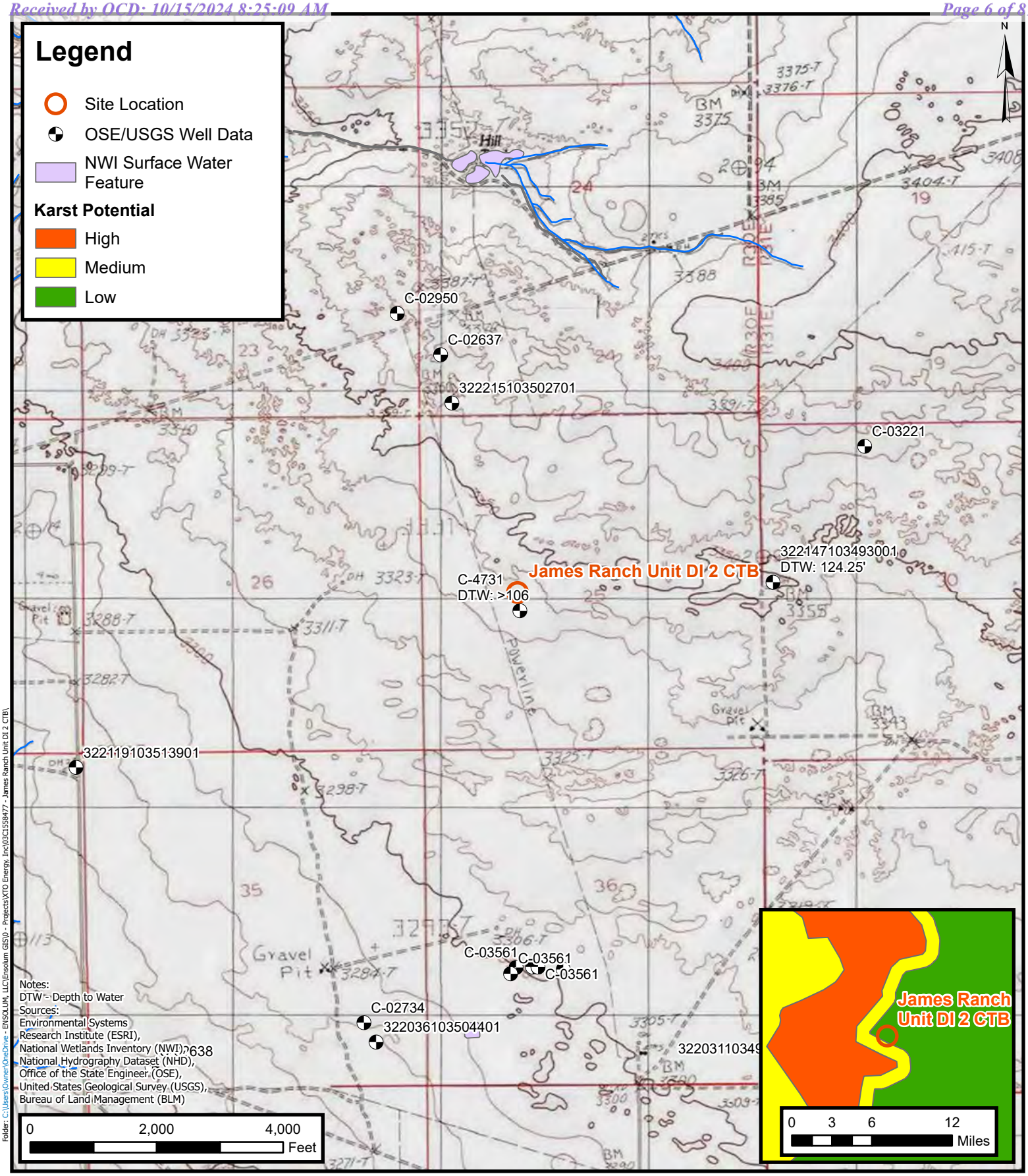
# FIGURES

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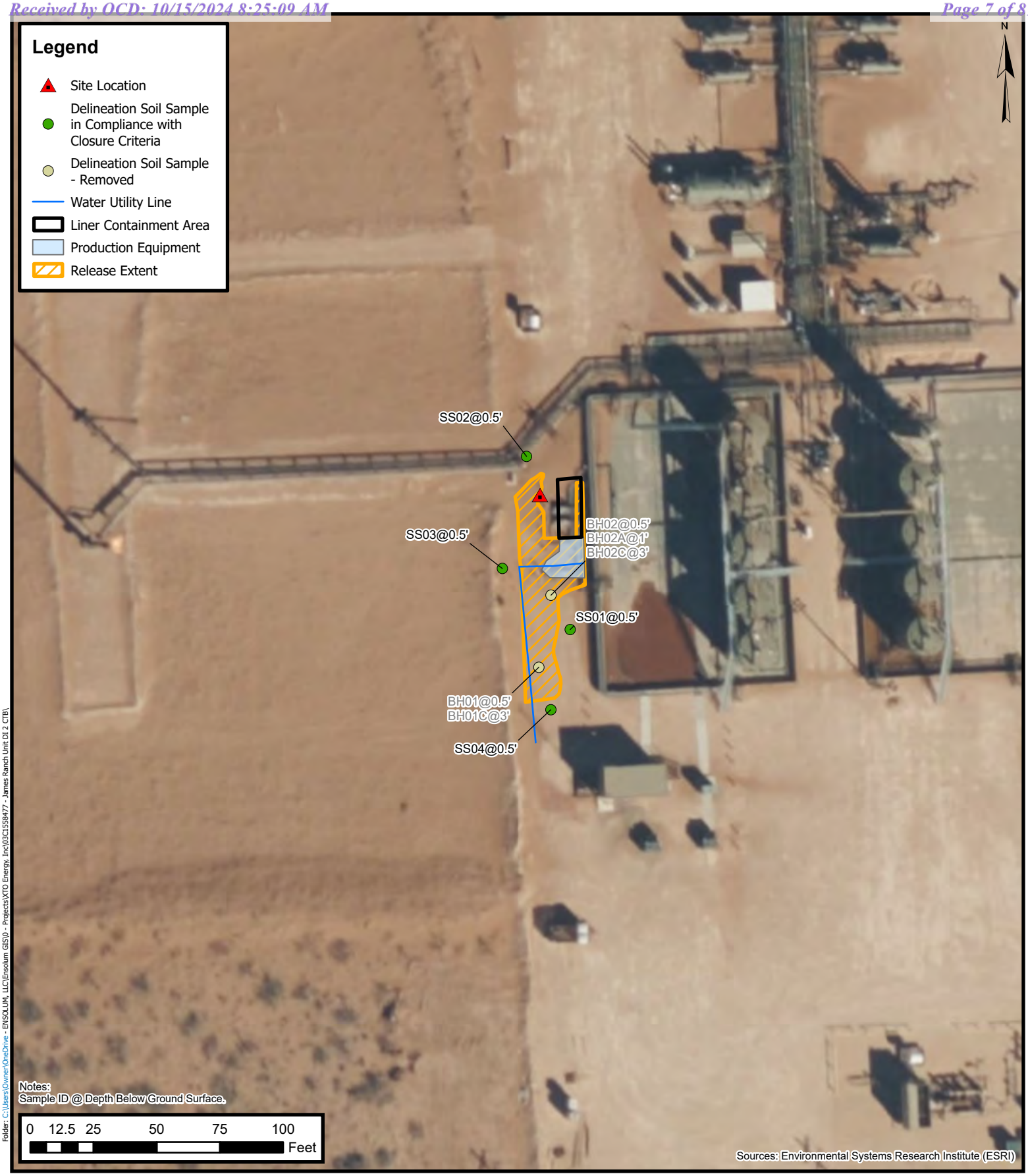
# Site Receptor Map

XTO Energy, Inc
James Ranch Unit DI 2 CTB
Incident Number: nAPP2420431165
Unit K, Section 25, T 22S, T 30E
Eddy County, New Mexico

**FIGURE 1**

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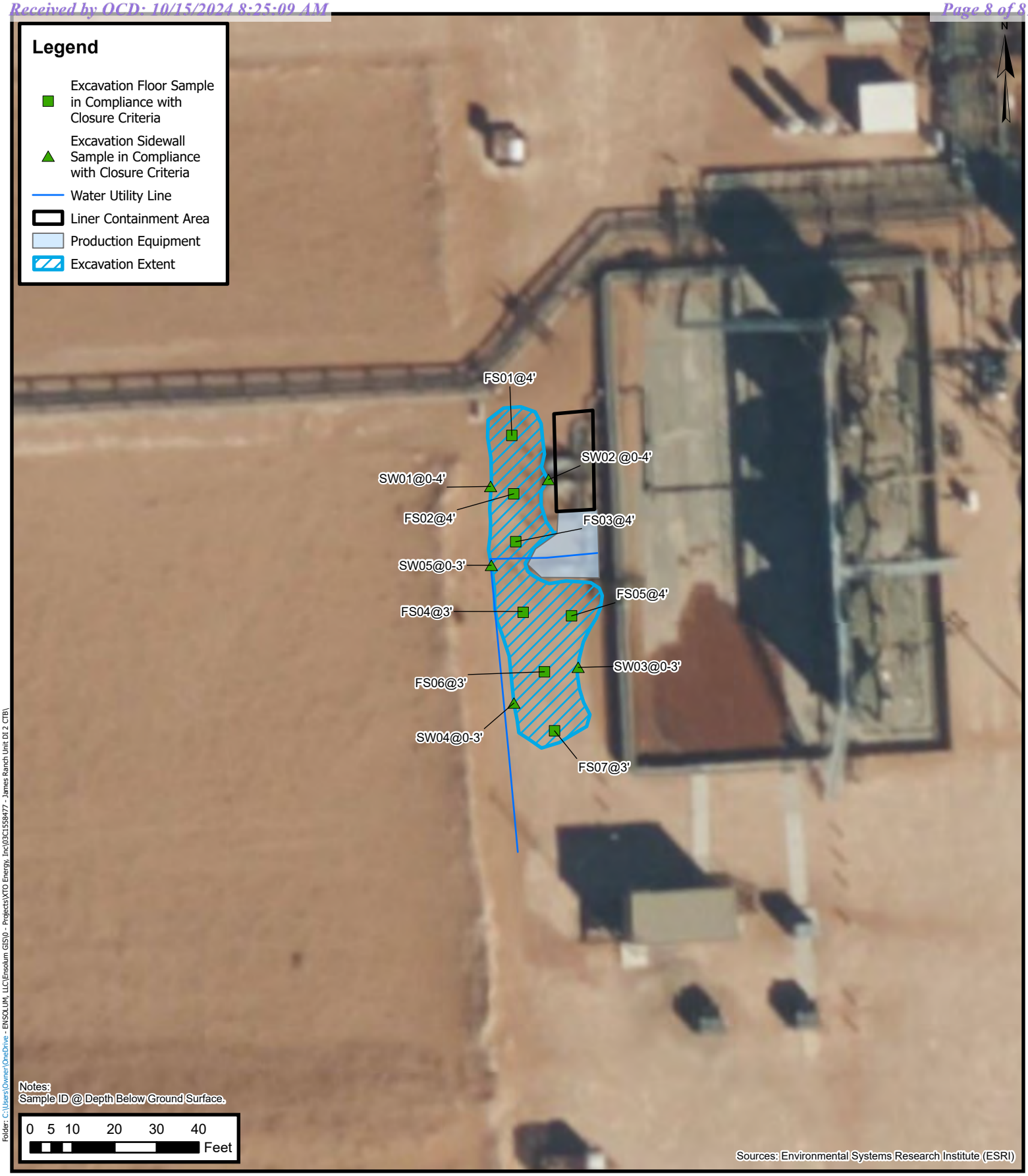
# Delineation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit DI 2 CTB
Incident Number: nAPP2420431165
Unit K, Section 25, T 22S, T 30E
Eddy County, New Mexico

**FIGURE 2**

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# Excavation Soil Sample Locations

XTO Energy, Inc
James Ranch Unit DI 2 CTB
Incident Number: nAPP2420431165
Unit K, Section 25, T 22S, T 30E
Eddy County, New Mexico

**FIGURE 3**

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# TABLES

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**TABLE 1**
**SOIL SAMPLE ANALYTICAL RESULTS**
**James Ranch Unit DI 2 CTB**
**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 |
| **Assessment Soil Samples** | | | | | | | | | | |
| ~~SS01~~ | ~~07/25/2024~~ | ~~0.5~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~192~~ |
| SS02 | 07/25/2024 | 0.5 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 176 |
| SS03 | 07/25/2024 | 0.5 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 32 |
| SS04 | 07/25/2024 | 0.5 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 96 |
| **Delineation Soil Samples** | | | | | | | | | | |
| ~~BH01~~ | ~~08/07/2024~~ | ~~0.5~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~16,400~~ |
| ~~BH01C~~ | ~~08/07/2024~~ | ~~3~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~48~~ |
| ~~BH02~~ | ~~08/07/2024~~ | ~~0.5~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~9,800~~ |
| ~~BH02A~~ | ~~08/07/2024~~ | ~~1~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~15,000~~ |
| ~~BH02C~~ | ~~08/07/2024~~ | ~~3~~ | ~~<0.050~~ | ~~<0.300~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~<10.0~~ | ~~5,600~~ |
| **Excavation Soil Samples** | | | | | | | | | | |
| FS01 | 09/25/2024 | 4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 4,000 |
| FS02 | 09/25/2024 | 4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 4,560 |
| FS03 | 09/25/2024 | 4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 4,160 |
| FS04 | 09/25/2024 | 3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 192 |
| FS05 | 09/25/2024 | 4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 256 |
| FS06 | 09/25/2024 | 3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 192 |
| FS07 | 09/25/2024 | 3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 32 |

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**TABLE 1**
**SOIL SAMPLE ANALYTICAL RESULTS**
**James Ranch Unit DI 2 CTB**
**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** |
| SW01 | 09/25/2024 | 0-4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 80 |
| SW02 | 09/25/2024 | 0-4 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 128 |
| SW03 | 09/25/2024 | 0-3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 400 |
| SW04 | 09/25/2024 | 0-3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 224 |
| SW05 | 09/25/2024 | 0-3 | <0.050 | <0.300 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | 208 |

Notes:

bgs: below ground surface
mg/kg: milligrams per kilogram
NMOCD: New Mexico Oil Conservation Division
BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes
Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.
GRO: Gasoline Range Organics
DRO: Diesel Range Organics
ORO: Oil Range Organics
TPH: Total Petroleum Hydrocarbon
NMAC: New Mexico Administrative Code
~~Grey~~ text indicates soil sample removed during excavation activities

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# APPENDIX A

## Referenced Well Records

File No. C-4731

# NEW MEXICO OFFICE OF THE STATE ENGINEER

## WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

| | | |
|---|---|---|
| Purpose: | ☐ Pollution Control And/Or Recovery | ☐ Ground Source Heat Pump |
| ☐ Exploratory Well (Pump test) | ☐ Construction Site/Public Works Dewatering | ☒ Other(Describe): Environmental Sampling |
| ☐ Monitoring Well | ☐ Mine Dewatering | |

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☒ Temporary Request - Requested Start Date: Requested End Date:

Plugging Plan of Operations Submitted? ☒ Yes ☐ No

### 1. APPLICANT(S)

| | |
|---|---|
| Name: Garrett Green | Name: Tacoma Morrissey |
| Contact or Agent: check here if Agent ☐ XTO Energy, Inc | Contact or Agent: check here if Agent ☒ Ensolum |
| Mailing Address: 3104 E. Greene St. | Mailing Address: 601 N. Marienfield St. Suite 400 |
| City: Carlsbad | City: Midland |
| State: New Mexico Zip Code: 88220 | State: Texas Zip Code: 79701 |
| Phone: 575-200-0729 ☐ Home ☒ Cell Phone (Work): | Phone: 337-257-8307 ☐ Home ☒ Cell Phone (Work): |
| E-mail (optional): garrett.green@exxonmobil.com | E-mail (optional): tmorrissey@ensolum.com |

OSE DIT APR 5 2023 PM 1:10

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

| | | |
|---|---|---|
| File No.: C-4731 | Trn. No.: 745536 | Receipt No.: 2.45642 |
| Trans Description (optional): MON | | |
| Sub-Basin: CUB | PCW/LOG Due Date: 4-10-2024 | |

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

**Location** Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

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

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

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

| Well Number (if known): | X or Easting or Longitude: | Y or Northing or Latitude: | Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name |
|---|---|---|---|
| C-4731 Pod 1 BH01 | -103.837980° | 32.361936° | Unit K, Sec 25, T22S, R30E |
| | | | |
| | | | |
| | | | |
| | | | |

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

Other description relating well to common landmarks, streets, or other:
Located on the southwest corner of the James Ranch Unit DI2 Pad

Well is on land owned by: BLM

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

| | |
|---|---|
| Approximate depth of well (feet): 110 | Outside diameter of well casing (inches): NA |
| Driller Name: SCARBOROUGH DRILLING INC | Driller License Number: 1188 |

**3. ADDITIONAL STATEMENTS OR EXPLANATIONS**

XTO will oversee the installation of a soil boring to approximately 110 feet below ground surface. The soil boring will be left open for approximately 72 hours, to allow for the slow infill of groundwater. An oil water interface probe will be utilized to confirm depth to groundwater in the soil boring. The depth to water boring is located at 32.361936°, -103.837980° and will confirm regional depth to water.

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

| File No.: C-4731 | Trn No.: 745536 |
|---|---|

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

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

**ACKNOWLEDGEMENT**

I, We (name of applicant(s)), Tacoma Morrissey
Print Name(s)

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

TMorrissey
Applicant Signature

Applicant Signature

**ACTION OF THE STATE ENGINEER**

OSE DIT APR 5 2023 PM 1:10

This application is:

☑ approved ☐ partially approved ☐ denied

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

Witness my hand and seal this 10th day of April 20 23, for the State Engineer,

Mike A. Hamman P.E., State Engineer

By: K.Parekh
Signature

Kashyap Parekh
Print

Title: Water Resources Manager I
Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: C-4731 Trn No.: 745536

**NEW MEXICO STATE ENGINEER OFFICE**
**PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL**

17-16 Construction of a water well by anyone without a valid New Mexico Well Driller License is illegal, and the landowner shall bear the cost of plugging the well by a licensed New Mexico well driller. This does not apply to driven wells, the casing of which does not exceed two and three-eighths inches outside diameter.

17-1A Depth of the well shall not exceed the thickness of the valley fill.

17-4 No water shall be appropriated and beneficially used under this permit.

17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.

Trn Desc: C 04731 POD1 File Number: C 04731
Trn Number: 745536

**NEW MEXICO STATE ENGINEER OFFICE**
**PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL (Continued)**

17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.

17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.

17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.

17-Q The State Engineer retains jurisdiction over this permit.

17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.

Trn Desc: C 04731 POD1 File Number: C 04731
Trn Number: 745536

**NEW MEXICO STATE ENGINEER OFFICE**
**PERMIT TO EXPLORE**

**SPECIFIC CONDITIONS OF APPROVAL (Continued)**

LOG The Point of Diversion C 04731 POD1 must be completed and the Well Log filed on or before 04/09/2024.

IT IS THE PERMITEE'S RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

**ACTION OF STATE ENGINEER**

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 04/05/2023 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

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

Witness my hand and seal this 10 day of Apr A.D., 2023

Mike A. Hamman, P.E., State Engineer

By: K. Parekh
KASHYAP PAREKH

Trn Desc: C 04731 POD1 File Number: C 04731
Trn Number: 745536

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220-6292

In Reply Refer To:
3162.4 (NM-080)

March 21, 2023

NM Office of the State Engineer
1900 W. Second St.
Roswell, NM 88201

Re: James Ranch Unit DI BS2A
Section 25, T22S-R30E
30-015-45402
Eddy County, New Mexico

To Whom It May Concern:

The above well location and the immediate area mentioned above requires advanced soil boring to take place at approximately 110 feet below ground surface. The boring will be secured and left open for 72 hours at which time XTO Permian Operating LLC will assess for the presence or absence of groundwater. Temporary PVC well material will be placed to total depth of the boring and secured at the surface. If water is encountered at any point during the boring, installation of the soil boring will be plugged using Portland Type I/II neat cement less than 6.0 gallons of water per 94lb sack. If no water is encountered, then the soil boring will be plugged. The Bureau of Land Management (landowner) authorizes the access of the area to accomplish depth to groundwater determination of this site.

If you have any questions contact Crisha Morgan, at 575-234-5987.

Sincerely,

Crisha Morgan

Crisha A. Morgan
Certified Environmental Protection Specialist

OSE DII APR 5 2023 PM1:09

**From:** Green, Garrett J
**To:** Aimee Cole; Tacoma Morrissey; Kalei Jennings; Ben Belill
**Cc:** Baker, Adrian
**Subject:** NMOSE Permit Permission
**Date:** Wednesday, May 18, 2022 5:56:20 PM

---

[ **EXTERNAL EMAIL**]

NMOSE,

The following Ensolum personnel have permission to submit and sign NMOSE well permitting documents on behalf of XTO Energy, Inc.

Ashley Ager
Aimee Cole
Tacoma Morrissey
Kalei Jennings
Ben Belill

Thank you,

Sent from my iPhone

OSE DII APR 5 2023 PM1:03


Larry Brotman, Esri, HERE, Garmin, (c) OpenStreetMap contributors, U.S. Department of Energy Office of Legacy Management

## Coordinates

**UTM - NAD 83 (m) - Zone 13**

Easting 609329.748

Northing 3581147.606

**State Plane - NAD 83 (f) - Zone E**

Easting 694288.532

Northing 495756.027

**Degrees Minutes Seconds**

Latitude 32 : 21 : 42.969600

Longitude -103 : 50 : 16.728000

Location pulled from Coordinate Search

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:4,514

ft

0 90 180 360

N

4/10/2023

Office of the State Engineer

Interstate Stream Commission

## Spatial Information

County: Eddy

Groundwater Basin: Carlsbad

Abstract Area: Carlsbad 72-12-1

Land Grant: Not in Land Grant Carlsbad Underground Basin

**Restrictions:**

NA

**PLSS Description**

SWNWNESW Qtr of Sec 25 of 022S 030E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

## Parcel Information

UPC/DocNum: 4180131267263

Parcel Owner: Bureau Of Land

Address: null null null

**Legal:** Quarter: Ne S: 25 T: 22S R: 30E Quarter: Nw S: 25 T: 22S R: 30E Quarter: Sw S: 25 T: 22S R: 30E Quarter: Se S: 25 T: 22S R: 30E All Map# 279-25 Loc E Of Carlsbad Exempt

## POD Information

Owner:

File Number:

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose:

- Calculated PLSS
- ◆ Coord Search Location
- OSE District Boundary
- ☐ Bernalillo County Parcels 2022
- ☐ Catron County Parcels 2022
- ☐ Chaves County Parcels 2022
- ☐ Cibola County Parcels 2022
- ☐ Colfax County Parcels 2022
- ☐ Curry County Parcels 2022
- ☐ De Baca County Parcels 2022
- ☐ Doña Ana County Parcels 2022
- ☐ Eddy County Parcels 2022
- ☐ Harding County Parcels 2022
- ☐ Hidalgo County Parcels 2022
- ☐ Grant County Parcels 2022
- ☐ Guadalupe County Parcels 2022
- ☐ Lea County Parcels 2022
- ☐ Lincoln County Parcels 2022
- ☐ Los Alamos County Parcels 2022
- ☐ Luna County Parcels 2022
- ☐ McKinley County Parcels 2022
- ☐ Mora County Parcels 2022
- ☐ Otero County Parcels 2022
- ☐ Quay County Parcels 2022
- ☐ Rio Arriba County Parcels 2022
- ☐ Roosevelt County Parcels 2022
- ☐ Sandoval County Parcels 2022
- ☐ San Juan County Parcels 2022
- ☐ San Miguel County Parcels 2022
- ☐ Santa Fe County Parcels 2022
- ☐ Sierra County Parcels 2022
- ☐ Socorro County Parcels 2022
- ☐ Taos County Parcels 2022
- ☐ Torrance County Parcels 2022
- ☐ Union County Parcels 2022
- ☐ Valencia County Parcels 2022
- ☐ SiteBoundaries

Mike A. Hamman, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO**
**OFFICE OF THE STATE ENGINEER**

Trn Nbr: 745536
File Nbr: C 04731

Apr. 10, 2023

GARRETT GREEN
XTO ENERGY, INC
3104 E GREENE ST
CARLSBAD, NM 88220

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Vanessa Clements

Vanessa Clements
(575)622-6521

Enclosure

explore

Mike A. Hamman, P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO**
**OFFICE OF THE STATE ENGINEER**

Trn Nbr: 745536
File Nbr: C 04731

Apr. 10, 2023

TACOMA MORRISSEY
ENSOLUM
601 N MARIENFELD ST SUITE 400
MIDLAND, TX 79701

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

* If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.

* If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.

* The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.

* This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Vanessa Clements
(575)622-6521

Enclosure

explore

ENSOLUM

| | | |
|---|---|---|
| Sample Name: BH01 (C-4731) | Date: 4/14/2023 | |
| Site Name: JRU D12 CTB | | |
| Incident Number: | | |
| Job Number: 03C1558019 and 03C1558049 | | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Peter Van Patten | Method: Air Rotary |
| Coordinates: 32.361936,-103.837980 | Hole Diameter: 4" | Total Depth: 106' |

Comments: No groundwater encountered while drilling; no groundwater after 72 hr

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| Dry | - | - | N | - | - | 0 | SP-SM | Sand (surface sample): dark tan, brown, fine grain, poorly graded, few caliche gravel, no stain, no odor |
| Dry | - | - | N | - | - | 10 | SP-SM | Sand: brownish red, very fine - fine grain, moderately graded, some silt, no stain, no odor |
| Dry | - | - | N | - | - | 20 | SP-SM | Sand: pinkish red, very fine-fine grain, moderately graded, silty, no stain, no odor |
| Dry | - | - | N | - | - | 30 | SP-SM | Sand: brownish red, very fine - fine grain, moderately graded, some silt, no stain, no odor |
| Dry | - | - | N | - | - | 40 | SP-SM | SAA (Same As Above)<br>gravel, no stain, no odor |
| Dry | - | - | N | - | - | 50 | SP-SM | SAA |
| Dry | - | - | N | - | - | 60 | SP-SM | SAA |
| Dry | - | - | N | - | - | 70 | SP-SM | SAA |
| Dry | - | - | N | - | - | 80 | SP-SM | Sand: pinkish red, very fine - fin grain, moderately graded, trace gypsum crystals, no stain, no odor |
| Dry | - | - | N | - | - | 90 | SP-SM | SAA, increasing gypsum crystals |
| Dry | - | - | N | - | - | 100 | SP-SM | SAA |
| | | | | | | 110 | | TD at 106' below ground surface |
| | | | | | | 120 | | |

# WELL PLUGGING PLAN OF OPERATIONS

**NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.**

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

**I. FILING FEE:** There is no filing fee for this form.

**II. GENERAL / WELL OWNERSHIP:** ☐ Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: BH01 C-4731-POD1

Name of well owner: XTO Energy Inc

Mailing address: 3104 E. Greene St. County: Eddy

City: Carlsbad State: New Mexico Zip code: 88220

Phone number: 575-200-0729 E-mail: garrett.green@exxonmobil.com

**III. WELL DRILLER INFORMATION:**

Well Driller contracted to provide plugging services: SCARBOROUGH DRILLING INC

New Mexico Well Driller License No.: 1188 Expiration Date: 3/31/24

**IV. WELL INFORMATION:** ☐ **Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.**

Note: A copy of the existing Well Record for the well (s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 31 deg, 21 min, 42.9696 sec
Longitude: 103 deg, 50 min, 16.728 sec, NAD 83

2) Reason(s) for plugging well(s):

Soil boring

OSE DIT APR 5 2023 PM1:03

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? N/A If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: >100 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 110 feet

7) Inside diameter of innermost casing: 2 inches.

8) Casing material: Temporary PVC SCH 40

9) The well was constructed with:

☐ an open-hole production interval, state the open interval: N/A

☐ a well screen or perforated pipe, state the screened interval(s): N/A

10) What annular interval surrounding the artesian casing of this well is cement-grouted? N/A

11) Was the well built with surface casing? no If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? _____ If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

## V. DESCRIPTION OF PLANNED WELL PLUGGING: ☐

**If plugging method differs between multiple wells on same site, a separate form must be completed for each method.**

**Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.**

**Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.**

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

The temporary 2" well material will be removed. If no water is encountered, drill cuttings will be used to ten feet below ground surface (bgs) and plugged using hydrated bentonite. If groundwater is encountered the boring will be plugged, tremie from bottom to a slurry of Portland Type I/II Neat cement in lifts.

2) Will well head be cut-off below land surface after plugging? N/A

## VI. PLUGGING AND SEALING MATERIALS:

**Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.**

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: 287

4) Type of Cement proposed: Type I/II

5) Proposed cement grout mix: <6.0 gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: _____ batch-mixed and delivered to the site

x mixed on site

OSE DII APR 5 2023 PM1:08

7) Grout additives requested, and percent by dry weight relative to cement:

N/A

8) Additional notes and calculations:

N/A

**VII. ADDITIONAL INFORMATION:** List additional information below, or on separate sheet(s):

N/A

**VIII. SIGNATURE:**

I, Tacoma Morrissey, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

T Morrissey — Signature of Applicant

3/31/23 — Date

**IX. ACTION OF THE STATE ENGINEER:**

OSE DII APR 5 2023 PM1:08

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.

_____ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 10th day of April, 2023

Mike A. Hamman P.E., New Mexico State Engineer

By: K. Parekh

KASHYAP PAREKH

W.R.M. I

WD-08 Well Plugging Plan
Version: July 31, 2019
Page 3 of 5

**TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.**

| | Interval 1 – deepest | Interval 2 | Interval 3 – most shallow |
|---|---|---|---|
| | | | Note: if the well is non-artesian and breaches only one aquifer, use only this column. |
| Top of proposed interval of grout placement (ft bgl) | N/A | N/A | 0 |
| Bottom of proposed interval of grout placement (ft bgl) | N/A | N/A | 100 |
| Theoretical volume of grout required per interval (gallons) | N/A | N/A | 287 |
| Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement | N/A | N/A | <6.0 |
| Mixed on-site or batch-mixed and delivered? | N/A | N/A | onsite |
| Grout additive 1 requested | N/A | N/A | N/A |
| Additive 1 percent by dry weight relative to cement | N/A | N/A | N/A |
| Grout additive 2 requested | N/A | N/A | N/A |
| Additive 2 percent by dry weight relative to cement | N/A | N/A | N/A |

OSE OIL APR 5 2023 PM1:03

**TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.**

| | Interval 1 – deepest | Interval 2 | Interval 3 – most shallow |
|---|---|---|---|
| | | | Note: if the well is non-artesian and breaches only one aquifer, use only this column. |
| Top of proposed interval of sealant placement (ft bgl) | N/A | N/A | 0 |
| Bottom of proposed sealant of grout placement (ft bgl) | N/A | N/A | 10 |
| Theoretical volume of sealant required per interval (gallons) | N/A | N/A | 26 |
| Proposed abandonment sealant (manufacturer and trade name) | N/A | N/A | Baroid Hole Plug |

OSE DIT APR 5 2023 PM1:08

**STATE OF NEW MEXICO**
*OFFICE OF THE STATE ENGINEER*
**ROSWELL**
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623- 8559

Applicant has identified a well, listed below, to be plugged. Scarborough Drilling Inc. (WD-1188) will perform the plugging.

Permittee: XTO Energy Inc.
NMOSE Permit Number: C-4731-POD1

| NMOSE File | Casing diameter (inches) | Well depth (feet bgl) | Approximate static water level (feet bgl) | Latitude | Longitude |
|---|---|---|---|---|---|
| C-4731-POD1 | 2.0 | 110.0 | 100.0 | 31° 21' 42.9696" | 103° 50' 16.728" |

**Specific Plugging Conditions of Approval for Well located in Eddy County.**

1. Water well drilling and well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

**2. Ground Water encountered:** The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 287.0 gallons. The total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 110 feet.

**3. Dry Hole:** The total Theoretical volume of sealant required for abandonment of soil boring well is approximately 26.10 gallons. Total minimum volume of necessary sealant shall be calculated upon sounding the actual pluggable depth of well, which is estimated at 10 feet.

**4. Ground Water encountered:** Type I/II Portland cement mixed with 5.2 to 6.0 gallons of fresh water per 94-lb sack of cement is approved for plugging the well.

**5. Dry Hole:** (a) Drill cuttings up to ten feet of land surface. (b) 10 feet to 0 feet – Hydrated bentonite. The bentonite shall be hydrated separately with its required increments of water prior to being mixed into the cement slurry.

6. Sealant shall be placed by pumping through a tremie pipe extended to near well bottom and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces

the standing water column upwards from below. Tremie pipe may be pulled as necessary to retain minimal submergence in the advancing column of sealant.

7. Should cement "shrinks-back" occur in the well, use of a tremie for topping off is required for cement placement deeper than 20 feet below land surface or if water is present in the casing. The approved sealant for topping off is identified in condition 4. and 5. of these Specific Conditions of Approval.

8. Any open annulus encountered surrounding the casing shall also be sealed by the placement of the approved sealant. When plugging shallow wells with no construction or environmental concerns, and if the well record on a well to be plugged shows a proper 20-foot annular seal, a plugging plan can propose the use of clean fill material to a nominal 30 feet bgs, then placing an OSE approved sealant to surface. Lacking that information, we would require an excavation of at least 2-feet which shall then be filled in its entirety with sealant to surface.

9. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

10. NMOSE witnessing the plugging of the soil boring will not be required.

11. Any deviation from this plan must obtain an approved variance from this office prior to implementation.

12. A Well Plugging Record itemizing actual abandonment process and materials used shall be filed with the State Engineer within 30 days after completion of well plugging. For the plugging record, please resurvey coordinate location for well and note coordinate system for GPS unit. Please attach a copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations is hereby approved with the aforesaid conditions applied.

Witness my hand and seal this 10th day of April 2023

Mike A. Hamman, P.E. State Engineer

By: K. Parekh

Kashyap Parekh
Water Resources Manager I

# STATE OF NEW MEXICO
## OFFICE OF THE STATE ENGINEER
### ROSWELL

**Mike A. Hamman, P.E.**
State Engineer

**DISTRICT II**
1900 West Second St.
Roswell, New Mexico 88201
Phone: (575) 622-6521
Fax: (575) 623-8559

April 10, 2023

XTO Energy Inc.
3104 E. Greene Street
Carlsbad, NM 88220

RE: Well Plugging Plan of Operations for well No. C-4731-POD1

Greetings:

Enclosed is your copy of the Well Plugging Plan of Operations for the above referenced well subject to the attached Conditions of Approval. The proposed method of operation is found to be acceptable and in accordance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 30, 2017 by the State Engineer. subject to the attached Conditions of Approval.

Within 30 days after the well is plugged, the well driller is required to file a complete plugging record with the OSE and the permit holder.

Well Plugging Plan of Operations form (WD-08) has been updated. Current form can be found on the OSE website at the following link https://www.ose.state.nm.us/Statewide/wdForms.php. **Failure to submit to the Well Plugging Plan of Operations in the correct form will result in delay of issuance of the permit.**

Sincerely,

K. Parekh

Kashyap Parekh
Water Resources Manager I

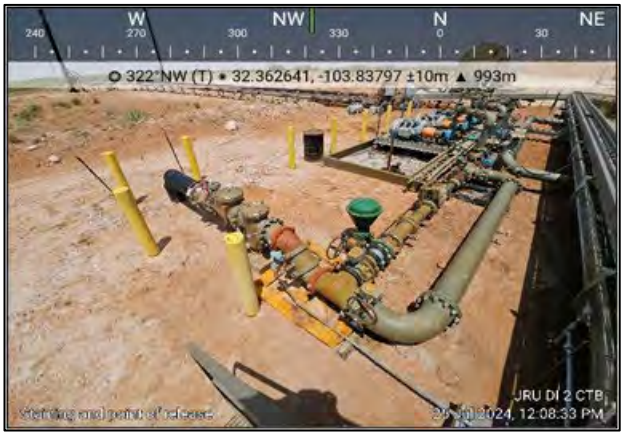
ENSOLUM

# APPENDIX B

## Photographic Log

ENSOLUM

**Photographic Log**
XTO Energy, Inc
James Ranch Unit DI 2 CTB
nAPP2420431165




Photograph: 1 Date: 7/25/2024
Description: Staining and point of release
View: Nortwest


Photograph: 2 Date: 7/25/2024
Description: Staining in release extent
View: Southwest


Photograph: 3 Date: 8/7/2024
Description: Delineation activties
View: North


Photograph: 4 Date: 9/25/2024
Description: Excavation activties
View: North

ENSOLUM

**Photographic Log**
XTO Energy, Inc
James Ranch Unit DI 2 CTB
nAPP2420431165


Photograph: 5 Date: 9/25/2024
Description: Final excavation extent
View: Southeast


Photograph: 6 Date: 9/25/2024
Description: Final excavation extent
View: North


Photograph: 7 Date: 9/25/2024
Description: Final excavation extent
View: West


Photograph: 8 Date: 9/25/2024
Description: Final excavation extent
View: South

ENSOLUM

# APPENDIX C

## Lithologic Soil Sampling Logs

ENSOLUM

| | | |
|---|---|---|
| | Sample Name: BH01 | Date: 8/7/2024 |
| | Site Name: James Ranch Unit DI 2 CTB | |
| | Incident Number: nAPP2420431165 | |
| | Job Number: 03C1558477 | |
| **LITHOLOGIC / SOIL SAMPLING LOG** | Logged By: Jesse Dorman | Method: Hand Auger |
| Coordinates: 32.362498, -103.838063 | Hole Diameter: 4" | Total Depth: 3' |

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% correction factor was included

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | (0-2') CALICHE, tan, fine-Grained |
| D | 14806 | 0 | N | BH01 | 0.5' | | | |
| | | | | | | 1 | | |
| | | | | | | 2 | | |
| D | 442.2 | 0 | N | BH01C | 3' | 3 | SP | (3') SAND, Dark brown, very fine, poorly graded |

Total Depth @ 3 feet bgs

ENSOLUM

| | |
|---|---|
| Sample Name: BH02 | Date: 8/7/2024 |
| Site Name: James Ranch Unit DI 2 CTB | |
| Incident Number: nAPP2420431165 | |
| Job Number: 03C1558477 | |

**LITHOLOGIC / SOIL SAMPLING LOG**

| | | |
|---|---|---|
| Logged By: Jesse Dorman | Method: Hand Auger | |
| Coordinates: 32.362576, -103.838047 | Hole Diameter: 4" | Total Depth: 3' |

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% correction factor was included

| Moisture Content | Chloride (ppm) | Vapor (ppm) | Staining | Sample ID | Sample Depth (ft bgs) | Depth (ft bgs) | USCS/Rock Symbol | Lithologic Descriptions |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 | CCHE | (0-2') CALICHE, tan, fine-Grained |
| D | 14,806 | 0 | N | BH02 | 0.5' | | | |
| D | 16,105 | 0 | N | BH02A | 1' | 1 | | |
| | | | | | | 2 | | |
| D | 5,023 | 0 | N | BH02C | 3' | 3 | SP | (3') SAND, Dark brown, very fine, poorly graded |

Total Depth @ 3 feet bgs

ENSOLUM

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

CARDINAL Laboratories

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

August 02, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JRU DI 2 CTB

Enclosed are the results of analyses for samples received by the laboratory on 07/30/24 14:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 07/30/2024 | Sampling Date: | 07/25/2024 |
| Reported: | 08/02/2024 | Sampling Type: | Soil |
| Project Name: | JRU DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Alyssa Parras |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SS 01 0.5' (H244537-01)

**BTEX 8021B** mg/kg **Analyzed By: JH**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.00 | 100 | 2.00 | 8.77 | |
| Toluene* | <0.050 | 0.050 | 07/31/2024 | ND | 1.97 | 98.4 | 2.00 | 9.42 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.08 | 104 | 2.00 | 9.88 | |
| Total Xylenes* | <0.150 | 0.150 | 07/31/2024 | ND | 6.11 | 102 | 6.00 | 9.73 | |
| Total BTEX | <0.300 | 0.300 | 07/31/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *97.6 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **192** | 16.0 | 08/01/2024 | ND | 448 | 112 | 400 | 0.00 | |

**TPH 8015M** mg/kg **Analyzed By: MS**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/31/2024 | ND | 187 | 93.7 | 200 | 4.47 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/31/2024 | ND | 184 | 91.9 | 200 | 4.69 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/31/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *95.6 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *96.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 07/30/2024 | Sampling Date: | 07/25/2024 |
| Reported: | 08/02/2024 | Sampling Type: | Soil |
| Project Name: | JRU DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Alyssa Parras |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SS 03 0.5' (H244537-02)

**BTEX 8021B** mg/kg **Analyzed By: JH**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.00 | 100 | 2.00 | 8.77 | |
| Toluene* | <0.050 | 0.050 | 07/31/2024 | ND | 1.97 | 98.4 | 2.00 | 9.42 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.08 | 104 | 2.00 | 9.88 | |
| Total Xylenes* | <0.150 | 0.150 | 07/31/2024 | ND | 6.11 | 102 | 6.00 | 9.73 | |
| Total BTEX | <0.300 | 0.300 | 07/31/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *97.8 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **32.0** | 16.0 | 08/01/2024 | ND | 448 | 112 | 400 | 0.00 | |

**TPH 8015M** mg/kg **Analyzed By: MS**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/31/2024 | ND | 187 | 93.7 | 200 | 4.47 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/31/2024 | ND | 184 | 91.9 | 200 | 4.69 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/31/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *117 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *120 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 07/30/2024 | Sampling Date: | 07/25/2024 |
| Reported: | 08/02/2024 | Sampling Type: | Soil |
| Project Name: | JRU DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Alyssa Parras |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SS 04 0.5' (H244537-03)

**BTEX 8021B** mg/kg **Analyzed By: JH**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.00 | 100 | 2.00 | 8.77 | |
| Toluene* | <0.050 | 0.050 | 07/31/2024 | ND | 1.97 | 98.4 | 2.00 | 9.42 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.08 | 104 | 2.00 | 9.88 | |
| Total Xylenes* | <0.150 | 0.150 | 07/31/2024 | ND | 6.11 | 102 | 6.00 | 9.73 | |
| Total BTEX | <0.300 | 0.300 | 07/31/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *97.8 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **96.0** | 16.0 | 08/01/2024 | ND | 448 | 112 | 400 | 0.00 | |

**TPH 8015M** mg/kg **Analyzed By: MS**

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/31/2024 | ND | 187 | 93.7 | 200 | 4.47 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/31/2024 | ND | 184 | 91.9 | 200 | 4.69 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/31/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *117 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *120 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

# CARDINAL Laboratories

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

| | | | |
|---|---|---|---|
| **Company Name:** Ensolum, LLC | **BILL TO** | **P.O. #:** | |
| **Project Manager:** Tracy Hillard | **Company:** XTO Energy | | |
| **Address:** 3122 National Parks Hwy | **Attn:** Amy Ruth | | |
| **City:** Carlsbad **State:** NM **Zip:** 88220 | **Address:** 3104 E. Greene st | | |
| **Phone #:** 575 9373906 **Fax #:** | **City:** Carlsbad | | |
| **Project #:** 03C1558477 **Project Owner:** | **State:** NM **Zip:** 88220 | | |
| **Project Name:** JRU D12 CTB | **Phone #:** | | |
| **Project Location:** 32.3619408, -103.8380243 | **Fax #:** | | |
| **Sampler Name:** Uriel Santillana | | | |

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | Depth (feet) | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | Chlorides | BTEX | TPH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H244537 | | | | | | | | | | | | | | | | | | |
| 1 | SS01 | 0.5' | G | 1 | | | X | | | | | X | | 7/25/24 | 1215 | X | X | X |
| 2 | SS03 | ↓ | ↓ | ↓ | | | ↓ | | | | | ↓ | | 7/25/24 | 1222 | ↓ | ↓ | ↓ |
| 3 | SS04 | ↓ | ↓ | ↓ | | | ↓ | | | | | ↓ | | ↓ | 1219 | ↓ | ↓ | ↓ |



| | | | |
|---|---|---|---|
| **Relinquished By:** | **Date:** 7.30.24 **Time:** 1425 | **Received By:** | **Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:** |
| | | | **All Results are emailed. Please provide Email address:** thillard@ensolum.com |
| **Relinquished By:** | **Date:** **Time:** | **Received By:** | **REMARKS:** Incident #nAPP2420431165 |

| | | | | |
|---|---|---|---|---|
| **Delivered By: (Circle One)** Sampler - UPS - Bus - Other: | Observed Temp. °C 1.4 Corrected Temp. °C | **Sample Condition** Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No | **CHECKED BY: (Initials)** AP | **Turnaround Time:** Standard ☒ Rush ☐ **Thermometer ID** ~~#113~~ #140 **Correction Factor** ~~-0.5~~°C **Bacteria (only) Sample Condition** Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No **Observed Temp. °C** **Corrected Temp. °C** |

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

FORM-006 R 3.2 10/07/21

CARDINAL Laboratories

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

August 02, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JRU DI 2 CTB

Enclosed are the results of analyses for samples received by the laboratory on 07/30/24 14:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 07/30/2024 | Sampling Date: | 07/25/2024 |
| Reported: | 08/02/2024 | Sampling Type: | Soil |
| Project Name: | JRU DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Alyssa Parras |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SS 02 0.5' (H244538-01)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.00 | 100 | 2.00 | 8.77 | |
| Toluene* | <0.050 | 0.050 | 07/31/2024 | ND | 1.97 | 98.4 | 2.00 | 9.42 | |
| Ethylbenzene* | <0.050 | 0.050 | 07/31/2024 | ND | 2.08 | 104 | 2.00 | 9.88 | |
| Total Xylenes* | <0.150 | 0.150 | 07/31/2024 | ND | 6.11 | 102 | 6.00 | 9.73 | |
| Total BTEX | <0.300 | 0.300 | 07/31/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *98.0 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **176** | 16.0 | 08/01/2024 | ND | 448 | 112 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 07/31/2024 | ND | 187 | 93.7 | 200 | 4.47 | |
| DRO >C10-C28* | <10.0 | 10.0 | 07/31/2024 | ND | 184 | 91.9 | 200 | 4.69 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 07/31/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *113 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *122 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

# CARDINAL Laboratories

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

| | |
|---|---|
| Company Name: Ensolum, LLC | **BILL TO** |
| Project Manager: Tracy Hillard | P.O. #: |
| Address: 3122 National Parks Hwy | Company: XTO Energy |
| City: Carlsbad State: NM Zip: 88220 | Attn: Amy Ruth |
| Phone #: 5759373906 Fax #: | Address: 3104 E. Green st |
| Project #: 03C1558477 Project Owner: | City: Carlsbad |
| Project Name: JRU DI 2 CTB | State: NM Zip: 88220 |
| Project Location: 32.3619408, -103.8380243 | Phone #: |
| Sampler Name: Uriel Santillan | Fax #: |

FOR LAB USE ONLY

| Lab I.D. | Sample I.D. | Depth (feet) | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | ANALYSIS REQUEST: Chlorides | TPH | BTEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H244538 -1 | SS02 | 0.5' | G | 1 | | | X | | | | | X | | 7/25/24 | 1358 | X | X | X |

SR 7/30/24

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: | Date: 7.30.24 | Received By: | Verbal Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 1425 | | All Results are emailed. Please provide Email address: thillard@ensolum.com |
| Relinquished By: | Date: | Received By: | REMARKS: Incident #: nAPP2420431165 |
| | Time: | | |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | Observed Temp. °C 1.4 Corrected Temp. °C | Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No | CHECKED BY: (Initials) PD |
| | | | Turnaround Time: Standard ☒ Rush ☐ |
| | | | Thermometer ID #113 #140 Correction Factor -0.5°C |
| | | | Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C |

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

August 14, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JAMES RANCH UNIT DI 2 CTB

Enclosed are the results of analyses for samples received by the laboratory on 08/08/24 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 08/08/2024 | Sampling Date: | 08/07/2024 |
| Reported: | 08/14/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: BH 01 .5' (H244784-01)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.13 | 107 | 2.00 | 1.13 | |
| Toluene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.12 | 106 | 2.00 | 0.466 | |
| Ethylbenzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.14 | 107 | 2.00 | 0.578 | |
| Total Xylenes* | <0.150 | 0.150 | 08/08/2024 | ND | 6.38 | 106 | 6.00 | 0.0268 | |
| Total BTEX | <0.300 | 0.300 | 08/08/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: HM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **16400** | 16.0 | 08/09/2024 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 08/08/2024 | ND | 198 | 99.0 | 200 | 7.92 | |
| DRO >C10-C28* | <10.0 | 10.0 | 08/08/2024 | ND | 194 | 97.0 | 200 | 8.94 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 08/08/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *66.7 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *80.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 08/08/2024 | Sampling Date: | 08/07/2024 |
| Reported: | 08/14/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: BH 01 C 3' (H244784-02)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.13 | 107 | 2.00 | 1.13 | |
| Toluene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.12 | 106 | 2.00 | 0.466 | |
| Ethylbenzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.14 | 107 | 2.00 | 0.578 | |
| Total Xylenes* | <0.150 | 0.150 | 08/08/2024 | ND | 6.38 | 106 | 6.00 | 0.0268 | |
| Total BTEX | <0.300 | 0.300 | 08/08/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *99.9 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: HM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **48.0** | 16.0 | 08/09/2024 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 08/08/2024 | ND | 198 | 99.0 | 200 | 7.92 | |
| DRO >C10-C28* | <10.0 | 10.0 | 08/08/2024 | ND | 194 | 97.0 | 200 | 8.94 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 08/08/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *85.1 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *97.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 08/08/2024 | Sampling Date: | 08/07/2024 |
| Reported: | 08/14/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: BH 02 .5' (H244784-03)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.13 | 107 | 2.00 | 1.13 | |
| Toluene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.12 | 106 | 2.00 | 0.466 | |
| Ethylbenzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.14 | 107 | 2.00 | 0.578 | |
| Total Xylenes* | <0.150 | 0.150 | 08/08/2024 | ND | 6.38 | 106 | 6.00 | 0.0268 | |
| Total BTEX | <0.300 | 0.300 | 08/08/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: HM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **9800** | 16.0 | 08/09/2024 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 08/08/2024 | ND | 198 | 99.0 | 200 | 7.92 | |
| DRO >C10-C28* | <10.0 | 10.0 | 08/08/2024 | ND | 194 | 97.0 | 200 | 8.94 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 08/08/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *80.3 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *93.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 08/08/2024 | Sampling Date: | 08/07/2024 |
| Reported: | 08/14/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: BH 02 A 1' (H244784-04)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.13 | 107 | 2.00 | 1.13 | |
| Toluene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.12 | 106 | 2.00 | 0.466 | |
| Ethylbenzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.14 | 107 | 2.00 | 0.578 | |
| Total Xylenes* | <0.150 | 0.150 | 08/08/2024 | ND | 6.38 | 106 | 6.00 | 0.0268 | |
| Total BTEX | <0.300 | 0.300 | 08/08/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *99.4 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: HM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **15000** | 16.0 | 08/09/2024 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 08/08/2024 | ND | 198 | 99.0 | 200 | 7.92 | |
| DRO >C10-C28* | <10.0 | 10.0 | 08/08/2024 | ND | 194 | 97.0 | 200 | 8.94 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 08/08/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *83.3 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *94.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 08/08/2024 | Sampling Date: | 08/07/2024 |
| Reported: | 08/14/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: BH 02 C 3' (H244784-05)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.13 | 107 | 2.00 | 1.13 | |
| Toluene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.12 | 106 | 2.00 | 0.466 | |
| Ethylbenzene* | <0.050 | 0.050 | 08/08/2024 | ND | 2.14 | 107 | 2.00 | 0.578 | |
| Total Xylenes* | <0.150 | 0.150 | 08/08/2024 | ND | 6.38 | 106 | 6.00 | 0.0268 | |
| Total BTEX | <0.300 | 0.300 | 08/08/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: HM

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **5600** | 16.0 | 08/09/2024 | ND | 416 | 104 | 400 | 3.77 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 08/08/2024 | ND | 198 | 99.0 | 200 | 7.92 | |
| DRO >C10-C28* | <10.0 | 10.0 | 08/08/2024 | ND | 194 | 97.0 | 200 | 8.94 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 08/08/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *80.5 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *91.9 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

| | |
|---|---|
| **Company Name:** Ensolum, LLC | **BILL TO** |
| **Project Manager:** Tracy Hillard | **P.O. #:** |
| **Address:** 3122 National Parks Hwy | **Company:** XTO Energy Inc. |
| **City:** Carlsbad **State:** NM **Zip:** 88220 | **Attn:** Amy Ruth |
| **Phone #:** 575-937-3906 **Fax #:** | **Address:** 3104 E. Green St. |
| **Project #:** : 03C1558477 **Project Owner:** XTO | **City:** Carlsbad |
| **Project Name:** James Ranch Unit DI 2 CTB | **State:** NM **Zip:** 88220 |
| **Project Location:** 32.3619408, -103.8380243 | **Phone #:** |
| **Sampler Name:** Jesse Dorman | **Fax #:** |

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | Sample Depth (feet) | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | ANALYSIS REQUEST: BTEX | TPH | CHLORIDE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H244784 | | | | | | | | | | | | | | | | | | |
| 1 | BH01 | .5' | G | 1 | | | X | | | | | X | | 8/7/24 | 13:10 | | | |
| 2 | BH01C | 3' | | | | | | | | | | | | | 13:45 | | | |
| 3 | BH02 | .5' | | | | | | | | | | | | | 14:05 | | | |
| 4 | BH02A | 1' | | | | | | | | | | | | | 14:15 | | | |
| 5 | BH02C | 3' | | | | | | | | | | | | | 14:40 | | | |
| | | | | | | | | | | | | | | | | | | |
| | SD | | | | | | | | | | | | | | | | | |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| **Relinquished By:** | **Date:** 8-8-24 | **Received By:** | **Verbal Result:** ☐ Yes ☑ No **Add'l Phone #:** |
| | **Time:** 1345 | | **All Results are emailed. Please provide Email address:** |
| **Relinquished By:** | **Date:** | **Received By:** | THillard@ensolum.com TMorrissey@ensolum.com, |
| | **Time:** | | **REMARKS:** Cost Center: Pending Incident ID: nAPP2420431165 |

| | | | |
|---|---|---|---|
| **Delivered By: (Circle One)** Sampler - UPS - Bus - Other: | Observed Temp. °C -0.3 / Corrected Temp. °C -0.9 | **Sample Condition** Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No | **CHECKED BY: (Initials)** TB |

**Turnaround Time:** ☐ Standard ☑ Rush #40 **Thermometer ID** #113 **Correction Factor** ~~0.5°C~~ -0.6°C

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

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

September 27, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: JAMES RANCH UNIT DI 2 CTB

Enclosed are the results of analyses for samples received by the laboratory on 09/26/24 13:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 01 4 (H245845-01)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *102 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **4000** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *81.6 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *93.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 02 4 (H245845-02)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **4560** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *89.5 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 03 4 (H245845-03)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *102 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **4160** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *86.7 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 04 3 (H245845-04)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **192** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *89.9 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 05 4 (H245845-05)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **256** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *92.4 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *105 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 06 3 (H245845-06)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **192** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *89.6 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *99.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: FS 07 3 (H245845-07)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *100 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **32.0** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *92.2 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *103 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SW 01 0-4 (H245845-08)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **80.0** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *89.7 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SW 02 0-4 (H245845-09)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

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

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **128** | 16.0 | 09/27/2024 | ND | 400 | 100 | 400 | 3.92 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *92.5 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *102 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SW 03 0-3 (H245845-10)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *102 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: CT

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **400** | 16.0 | 09/27/2024 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *90.1 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *104 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SW 04 0-3 (H245845-11)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: CT

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **224** | 16.0 | 09/27/2024 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *86.9 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *98.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

| | | | |
|---|---|---|---|
| Received: | 09/26/2024 | Sampling Date: | 09/25/2024 |
| Reported: | 09/27/2024 | Sampling Type: | Soil |
| Project Name: | JAMES RANCH UNIT DI 2 CTB | Sampling Condition: | Cool & Intact |
| Project Number: | 03C1558477 | Sample Received By: | Tamara Oldaker |
| Project Location: | XTO 32.3619408-103.8380243 | | |

### Sample ID: SW 05 0-3 (H245845-12)

**BTEX 8021B** mg/kg Analyzed By: JH

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| Benzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.82 | 91.0 | 2.00 | 2.20 | |
| Toluene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.93 | 96.7 | 2.00 | 1.16 | |
| Ethylbenzene* | <0.050 | 0.050 | 09/26/2024 | ND | 1.97 | 98.6 | 2.00 | 0.692 | |
| Total Xylenes* | <0.150 | 0.150 | 09/26/2024 | ND | 5.92 | 98.7 | 6.00 | 0.501 | |
| Total BTEX | <0.300 | 0.300 | 09/26/2024 | ND | | | | | |

*Surrogate: 4-Bromofluorobenzene (PID* *101 %* *71.5-134*

**Chloride, SM4500Cl-B** mg/kg Analyzed By: CT

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| **Chloride** | **208** | 16.0 | 09/27/2024 | ND | 432 | 108 | 400 | 0.00 | |

**TPH 8015M** mg/kg Analyzed By: MS

| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
|---|---|---|---|---|---|---|---|---|---|
| GRO C6-C10* | <10.0 | 10.0 | 09/27/2024 | ND | 206 | 103 | 200 | 0.499 | |
| DRO >C10-C28* | <10.0 | 10.0 | 09/27/2024 | ND | 216 | 108 | 200 | 0.122 | |
| EXT DRO >C28-C36 | <10.0 | 10.0 | 09/27/2024 | ND | | | | | |

*Surrogate: 1-Chlorooctane* *87.4 %* *48.2-134*

*Surrogate: 1-Chlorooctadecane* *98.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

## Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte



Celey D. Keene, Lab Director/Quality Manager

# CARDINAL Laboratories

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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

| | |
|---|---|
| Company Name: Ensolum, LLC | **BILL TO** |
| Project Manager: Tracy Hillard | P.O. #: |
| Address: 3122 National Parks Hwy | Company: XTO Energy Inc. |
| City: Carlsbad State: NM Zip: 88220 | Attn: Amy Ruth |
| Phone #: 575 937 3906 Fax #: | Address: 3104 E Green St |
| Project #: 03C1558477 Project Owner: XTO | City: Carlsbad |
| Project Name: James Ranch Unit DI2 CTB | State: NM Zip:88220 |
| Project Location: 32.3619408, -103.8350243 | Phone #: |
| Sampler Name: Joshua Bailey | Fax #: |

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | Depth (feet) | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | ANALYSIS REQUEST: Chlorides | TPH | BTEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H245845 | | | | | | | | | | | | | | | | | | |
| 1 | FS01 | 4 | C | 1 | | | X | X | | | | X | | 9.25.24 | 1110 | X | X | X |
| 2 | FS02 | 4 | | | | | | | | | | | | | 1115 | | | |
| 3 | FS03 | 4 | | | | | | | | | | | | | 1120 | | | |
| 4 | FS04 | 3 | | | | | | | | | | | | | 1255 | | | |
| 5 | FS05 | 4 | | | | | | | | | | | | | 1420 | | | |
| 6 | FS06 | 3 | | | | | | | | | | | | | 1340 | | | |
| 7 | FS07 | 3 | C | 1 | | | X | | | | | X | | 9.25.24 | 1520 | X | X | X |

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising ~~whether based in contract~~ or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

| | | | |
|---|---|---|---|
| Relinquished By: | Date: 9-26-24 | Received By: | Verbal Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 1348 | | All Results are emailed. Please provide Email address: |
| Relinquished By: | Date: | Received By: | THillard @ensolum.com, TMorrissey@ensolum.com, kthomason@ensolum.com |
| | Time: | | REMARKS: Incident: nAPP2420431165 |
| Delivered By: (Circle One) | Observed Temp. °C 2.5 | Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No | CHECKED BY: (Initials) YD |
| Sampler - UPS - Bus - Other: | Corrected Temp. °C 1.9 | | Cost Center: |
| | | | Turnaround Time: Standard ☐ Rush ☑ 24hr |
| | | | Thermometer ID ~~#113~~ #140 Correction Factor ~~0.5°C~~ -0.6°C |
| | | | Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No; Observed Temp. °C; Corrected Temp. °C |

FORM-006 R 3.2 10/07/21

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

# CARDINAL Laboratories

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

Company Name: Ensolum, LLC
Project Manager: Tracy Hillard
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: 575 937 3906 Fax #:
Project #: 03C1558477 Project Owner: XTO
Project Name: James Ranch Unit DI 2 CTB
Project Location: 32.3619408, -103.8380243
Sampler Name: Joshua Baxley

**BILL TO**
P.O. #:
Company: XTO Energy Inc.
Attn: Amy Ruth
Address: 3104 E Green St
City: Carlsbad
State: NM Zip:88220
Phone #:
Fax #:

**ANALYSIS REQUEST**

| FOR LAB USE ONLY Lab I.D. | Sample I.D. | Depth (feet) | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX: GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | PRESERV.: ACID/BASE: | ICE / COOL | OTHER : | SAMPLING: DATE | TIME | Chloride | TPH | BTEX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H245845 | | | | | | | | | | | | | | | | | | |
| 8 | SW01 | 0-4 | C | 1 | | | X | | | | | X | | 9.25.24 | 1125 | X | X | X |
| 9 | SW02 | 0-4 | | | | | | | | | | | | | 1130 | | | |
| 10 | SW03 | 0-3 | | | | | | | | | | | | | 1415 | | | |
| 11 | SW04 | 0-3 | | | | | | | | | | | | | 1450 | | | |
| 12 | SW05 | 0-3 | C | 1 | | | | | | | | X | | 9.25.24 | 1525 | X | X | X |

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| | | | |
|---|---|---|---|
| Relinquished By: | Date: 9-26-24 | Received By: | Verbal Result: ☐ Yes ☐ No Add'l Phone #: |
| | Time: 1348 | | All Results are emailed. Please provide Email address: |
| Relinquished By: | Date: | Received By: | THillard @ensolum.com, TMorrissey@ensolum.com, kthomason@ensolum.com |
| | Time: | | REMARKS: Incident: nAPP2420431165 |
| Delivered By: (Circle One) | Observed Temp. °C 2.5 | Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No | CHECKED BY: (Initials) TO |
| Sampler - UPS - Bus - Other: | Corrected Temp. °C 1.9 | | Cost Center: |

Turnaround Time: Standard ☐ Rush ☑ 24hr
Thermometer ID #113 #140
Correction Factor -0.5°C -0.6°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

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

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

QUESTIONS

Action 392619

## QUESTIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Prerequisites** | |
|---|---|
| Incident ID (n#) | **nAPP2420431165** |
| Incident Name | **NAPP2420431165 JAMES RANCH UNIT DI 2 CTB @ 0** |
| Incident Type | **Produced Water Release** |
| Incident Status | **Remediation Closure Report Received** |

| **Location of Release Source** | |
|---|---|
| *Please answer all the questions in this group.* | |
| Site Name | James Ranch Unit DI 2 CTB |
| Date Release Discovered | 07/20/2024 |
| Surface Owner | Federal |

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

| **Nature and Volume of Release** | |
|---|---|
| *Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.* | |
| Crude Oil Released (bbls) Details | *Not answered.* |
| Produced Water Released (bbls) Details | Cause: Equipment Failure \| Motor \| Produced Water \| Released: 49 BBL \| Recovered: 5 BBL \| Lost: 44 BBL. |
| Is the concentration of chloride in the produced water >10,000 mg/l | No |
| Condensate Released (bbls) Details | *Not answered.* |
| Natural Gas Vented (Mcf) Details | *Not answered.* |
| Natural Gas Flared (Mcf) Details | *Not answered.* |
| Other Released Details | *Not answered.* |
| Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts) | 10 inch to 8 inch swedge and Vic clamp washed out. Causing a spill outside of containment |

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



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Nature and Volume of Release (continued)** | |
|---|---|
| Is this a gas only submission (i.e. only significant Mcf values reported) | **No, according to supplied volumes this does not appear to be a "gas only" report.** |
| Was this a major release as defined by Subsection A of 19.15.29.7 NMAC | **Yes** |
| Reasons why this would be considered a submission for a notification of a major release | **From paragraph A. "Major release" determine using:**<br>**(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.** |
| *With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.* | |

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

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

| | |
|---|---|
| I hereby agree and sign off to the above statement | Name: Colton Brown<br>Title: Environmental Advisor<br>Email: colton.s.brown@exxonmobil.com<br>Date: 10/15/2024 |

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



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Site Characterization** | |
|---|---|
| *Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs) | Between 100 and 500 (ft.) |
| What method was used to determine the depth to ground water | NM OSE iWaters Database Search |
| Did this release impact groundwater or surface water | No |
| **What is the minimum distance, between the closest lateral extents of the release and the following surface areas:** | |
| A continuously flowing watercourse or any other significant watercourse | Between ½ and 1 (mi.) |
| Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) | Between 1 and 5 (mi.) |
| An occupied permanent residence, school, hospital, institution, or church | Between 1 and 5 (mi.) |
| A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes | Between 1 and 5 (mi.) |
| Any other fresh water well or spring | Between 1 and 5 (mi.) |
| Incorporated municipal boundaries or a defined municipal fresh water well field | Greater than 5 (mi.) |
| A wetland | Between 1 and 5 (mi.) |
| A subsurface mine | Between 1 and 5 (mi.) |
| An (non-karst) unstable area | Between 1 and 5 (mi.) |
| Categorize the risk of this well / site being in a karst geology | Low |
| A 100-year floodplain | Between 1 and 5 (mi.) |
| Did the release impact areas not on an exploration, development, production, or storage site | No |

| **Remediation Plan** | |
|---|---|
| *Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| Requesting a remediation plan approval with this submission | Yes |
| *Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.* | |
| Have the lateral and vertical extents of contamination been fully delineated | Yes |
| Was this release entirely contained within a lined containment area | No |
| **Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.) | |
| Chloride (EPA 300.0 or SM4500 Cl B) | 4560 |
| TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M) | 0 |
| GRO+DRO (EPA SW-846 Method 8015M) | 0 |
| BTEX (EPA SW-846 Method 8021B or 8260B) | 0 |
| Benzene (EPA SW-846 Method 8021B or 8260B) | 0 |
| | |
| *Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.* | |
| On what estimated date will the remediation commence | 07/25/2024 |
| On what date will (or did) the final sampling or liner inspection occur | 09/25/2024 |
| On what date will (or was) the remediation complete(d) | 09/25/2024 |
| What is the estimated surface area (in square feet) that will be reclaimed | 1198 |
| What is the estimated volume (in cubic yards) that will be reclaimed | 160 |
| What is the estimated surface area (in square feet) that will be remediated | 1198 |
| What is the estimated volume (in cubic yards) that will be remediated | 160 |
| *These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.* | |
| *The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.* | |

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# State of New Mexico
# Energy, Minerals and Natural Resources
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## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| | |
|---|---|
| **Remediation Plan (continued)** | |
| *Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.* | |
| **This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:** | |
| *(Select all answers below that apply.)* | |
| (Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.) | Yes |
| Which OCD approved facility will be used for **off-site** disposal | HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510] |
| **OR** which OCD approved well (API) will be used for **off-site** disposal | *Not answered.* |
| **OR** is the **off-site** disposal site, to be used, out-of-state | *Not answered.* |
| **OR** is the **off-site** disposal site, to be used, an NMED facility | *Not answered.* |
| (Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms) | *Not answered.* |
| (In Situ) Soil Vapor Extraction | *Not answered.* |
| (In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.) | *Not answered.* |
| (In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.) | *Not answered.* |
| (In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.) | *Not answered.* |
| Ground Water Abatement pursuant to 19.15.30 NMAC | *Not answered.* |
| OTHER (Non-listed remedial process) | *Not answered.* |
| *Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.* | |
| | |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. | |
| I hereby agree and sign off to the above statement | Name: Colton Brown<br>Title: Environmental Advisor<br>Email: colton.s.brown@exxonmobil.com<br>Date: 10/15/2024 |
| *The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.* | |

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## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

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

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## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

| **Sampling Event Information** | |
|---|---|
| Last sampling notification (C-141N) recorded | **384930** |
| Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC | **09/26/2024** |
| What was the (estimated) number of samples that were to be gathered | **15** |
| What was the sampling surface area in square feet | **1500** |

| **Remediation Closure Request** | |
|---|---|
| *Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.* | |
| Requesting a remediation closure approval with this submission | Yes |
| Have the lateral and vertical extents of contamination been fully delineated | **Yes** |
| Was this release entirely contained within a lined containment area | **No** |
| All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion | Yes |
| What was the total surface area (in square feet) remediated | 1198 |
| What was the total volume (cubic yards) remediated | 160 |
| All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene | Yes |
| What was the total surface area (in square feet) reclaimed | 1198 |
| What was the total volume (in cubic yards) reclaimed | 160 |
| Summarize any additional remediation activities not included by answers (above) | "Site assessment and excavation activities were conducted at the Site to address the July 20, 2024, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated that all COC concentrations were compliant with the Site Closure Criteria. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. Due to the release occurring onto the pad surface, final reclamation of the pad surface will be completed during pad abandonment. Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs and no other sensitive receptors were identified near the Site. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number nAPP2420431165. " |
| *The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.* | |

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

| | |
|---|---|
| I hereby agree and sign off to the above statement | Name: Colton Brown<br>Title: Environmental Advisor<br>Email: colton.s.brown@exxonmobil.com<br>Date: 10/15/2024 |

**District I**
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**District II**
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**District III**
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**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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



## QUESTIONS (continued)

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**QUESTIONS**

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

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CONDITIONS

Action 392619

## CONDITIONS

| Operator: | OGRID: |
|---|---|
| XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | 5380 |
| | Action Number:<br>392619 |
| | Action Type:<br>[C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| scott.rodgers | A reclamation report will not be accepted until reclamation of the release area, including areas reasonably needed for production or drilling activities, is complete and meet the requirements of 19.15.29.13 NMAC. Areas not reasonably needed for production or drilling activities will still need to be reclaimed and revegetated as early as practicable. | 10/29/2024 |
| scott.rodgers | The reclamation report will need to include: Executive Summary of the reclamation activities; Scaled Site Map including sampling locations; Analytical results including, but not limited to, results showing that any remaining impacts meet the reclamation standards and results to prove the backfill is non-waste containing; At least one (1) representative 5-point composite sample will need to be collected from the backfill material that will be used for the reclamation of the top four feet of the excavation. OCD reserves the right to request additional sampling if needed; pictures of the backfilled areas showing that the area is back, as nearly as practical, to the original condition or the final land use and maintain those areas to control dust and minimize erosion to the extent practical; pictures of the top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater; and a revegetation plan. | 10/29/2024 |