1. Continue monthly O&M schedule as stated in the system adjustments and recommendations section of report.
2. Submit next quarterly report by April 15, 2025.

ENSOLUM

January 28, 2025

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

**Re: Fourth Quarter 2024 – Solar SVE System Update**
James Ranch Unit #10 Battery
Eddy County, New Mexico
XTO Energy, Inc.
NMOCD Incident Numbers NAB1535754357, NAB1521257588, and NAB1904653072

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), presents this *Fourth Quarter 2024 - Solar SVE System Update* report summarizing the solar soil vapor extraction (SVE) system performance at the James Ranch Unit #10 Battery (Site), located in Unit H, Section 1, Township 23 South, Range 30 East in Eddy County, New Mexico (Figure 1). The SVE system has operated since May 27, 2022, to remediate residual subsurface soil impacts at the Site. This report summarizes Site activities performed in October, November, and December of 2024 for the New Mexico Oil Conservation Division (NMOCD).

## SVE SYSTEM SPECIFICATIONS

Currently, a VariSun Direct Solar SVE system is installed at the Site. This system consists of a 6.2 horsepower (HP) Pentair SST65 high efficiency regenerative blower capable of producing 250 cubic feet per minute (cfm) flow and a vacuum of 110 inches of water column (IWC). The system is powered by 12, 415-watt solar modules capable of producing 5 kilowatts (KW) of electricity. A motor controller automatically starts the system as soon as sunlight is available and increases the electrical output to the blower as solar power increases throughout the day.

Ten SVE wells (SVE01 through SVE06 and SVE-PT-01 through SVE-PT-04) are currently installed at the Site, as depicted on Figure 2. In order to target total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) soil impacts at different depth intervals, the screened intervals of the SVE wells were installed in shallow, medium, and deep zones. Specifically, SVE wells SVE01, SVE02, SVE03, and SVE04 target shallow zone impacts and are screened at depths between 5 feet and 20 feet below ground surface (bgs). SVE wells SVE-PT-02, SVE-PT-03, and SVE-PT-04 target medium zone impacts and are screened between 15 feet and 30 feet bgs. SVE wells SVE05, SVE06, and SVE-PT-01 target deep zone impacts and are screened at depths between 25 feet and 65 feet bgs.

## SUMMARY OF SVE OPERATIONS

During the fourth quarter of 2024, Ensolum personnel performed routine operation and maintenance (O&M) visits to verify that the system was operating as designed and to perform any

required maintenance. In accordance with the approved *Revised Remediation Work Plan – SVE System* prepared by LT Environmental, Inc. (LTE, dated October 30, 2019), O&M inspections were performed at least monthly during this time period. Field notes taken during O&M visits are included as Appendix A.

During the fourth quarter of 2024, vapor extraction was applied to all SVE wells except for SVE03 and SVE06 (as recommended in the *Second Quarter 2023 - Solar SVE System Update)* to remove hydrocarbon impacts from the impacted zones at the Site. Between September 12 and December 11, 2024, approximately 954 total hours of nominal daylight were available for the solar SVE system to operate. Available nominal daylight hours are based on estimates by the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS) for the Site location. Between these dates, the actual runtime for the system was 819.0 hours, equating to a runtime efficiency of 85.8 percent (%). Runtime for solar SVE systems can be less than the nominal hours due to cloud cover or other adverse weather preventing sufficient sunlight to generate electrical energy through solar conversion and no off alarms were noted on the system telemetry throughout the quarter. Table 1 presents the SVE system runtime compared to nominal available daylight hours per month.

## VAPOR SAMPLING RESULTS

A fourth quarter 2024 vapor sample was collected on December 11, 2024. The vapor sample was collected from a sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler. Prior to collection, the vapor sample was field screened with a photoionization detector (PID) for organic vapor monitoring (OVM). The vapor sample was collected directly into two 1-Liter Tedlar® bags and submitted to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known as TPH – gasoline range organics (GRO)) and BTEX following Environmental Protection Agency (EPA) Method 8260C.

TVPH concentrations account for the majority contaminant mass and system emissions, with a result of 455 micrograms per liter (µg/L). In comparison, individual BTEX constituent concentrations ranged from below the laboratory reporting limits up to 24.4 µg/L in the fourth quarter of 2024. Table 2 presents a summary of TVPH and BTEX analytical data collected during the sampling events, with the full laboratory analytical reports included in Appendix B.

Vapor sample data and measured stack flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 2). Based on these estimates, approximately 19,113 pounds (9.56 tons) of TVPH have been removed by the system to date.

## SYSTEM ADJUSTMENTS AND RECOMMENDATIONS

A notable drop in TVPH was observed between the first quarter of 2024 and the second quarter of 2024. The drop persisted in the third and fourth quarters of 2024. Flow rates from the individual extraction wells are not currently obtained on a routine basis; however, individual well PID readings were collected in September 2024 and indicated mass removal rates from four of the extraction wells are likely much higher than those from the other four extractions wells. Ensolum personnel attempted to collect individual extraction well flow rates during the fourth quarter of 2024; however, the current system configuration did not allow for individual flow rate collection via thermal anemometer. An additional attempt will be made to collect individual flow rates during the first quarter of 2025. Following collection of the additional data, Ensolum personnel will make adjustments to maximize extraction from SVE-PT-01, SVE-PT-03, SVE-PT-04, and SVE04. Adjustments to system operation will continue to be made in order to maximize mass removal.

Monthly O&M visits will continue to be performed by Ensolum personnel to verify the SVE system is operating within normal working ranges (i.e., temperature, pressure, and vacuum). Deviations from regular operations will be noted on field logs and included in the following update report. XTO will continue operating the SVE system until TVPH concentrations decrease to below 1,000 µg/L for several consecutive quarters following system optimization and/or asymptotic conditions are observed. At that time, an evaluation of residual petroleum hydrocarbons will be assessed and further recommendations for remedial actions, if any, will be provided to the NMOCD.

We appreciate the opportunity to provide this report to the NMOCD. If you should have any questions or comments regarding this report, please contact the undersigned.

Sincerely,
**Ensolum, LLC**

Stuart Hyde
Senior Managing Geologist
(970) 903-1607
shyde@ensolum.com

Daniel R. Moir
Senior Managing Geologist
(303) 887-2946
dmoir@ensolum.com

**Attachments:**

| | |
|---|---|
| Figure 1 | Site Location Map |
| Figure 2 | SVE System Configuration |
| Table 1 | Soil Vapor Extraction System Runtime Calculations |
| Table 2 | Soil Vapor Extraction System Mass Removal and Emissions |
| Appendix A | Field Notes |
| Appendix B | Laboratory Analytical Reports & Chain-of-Custody Documentation |

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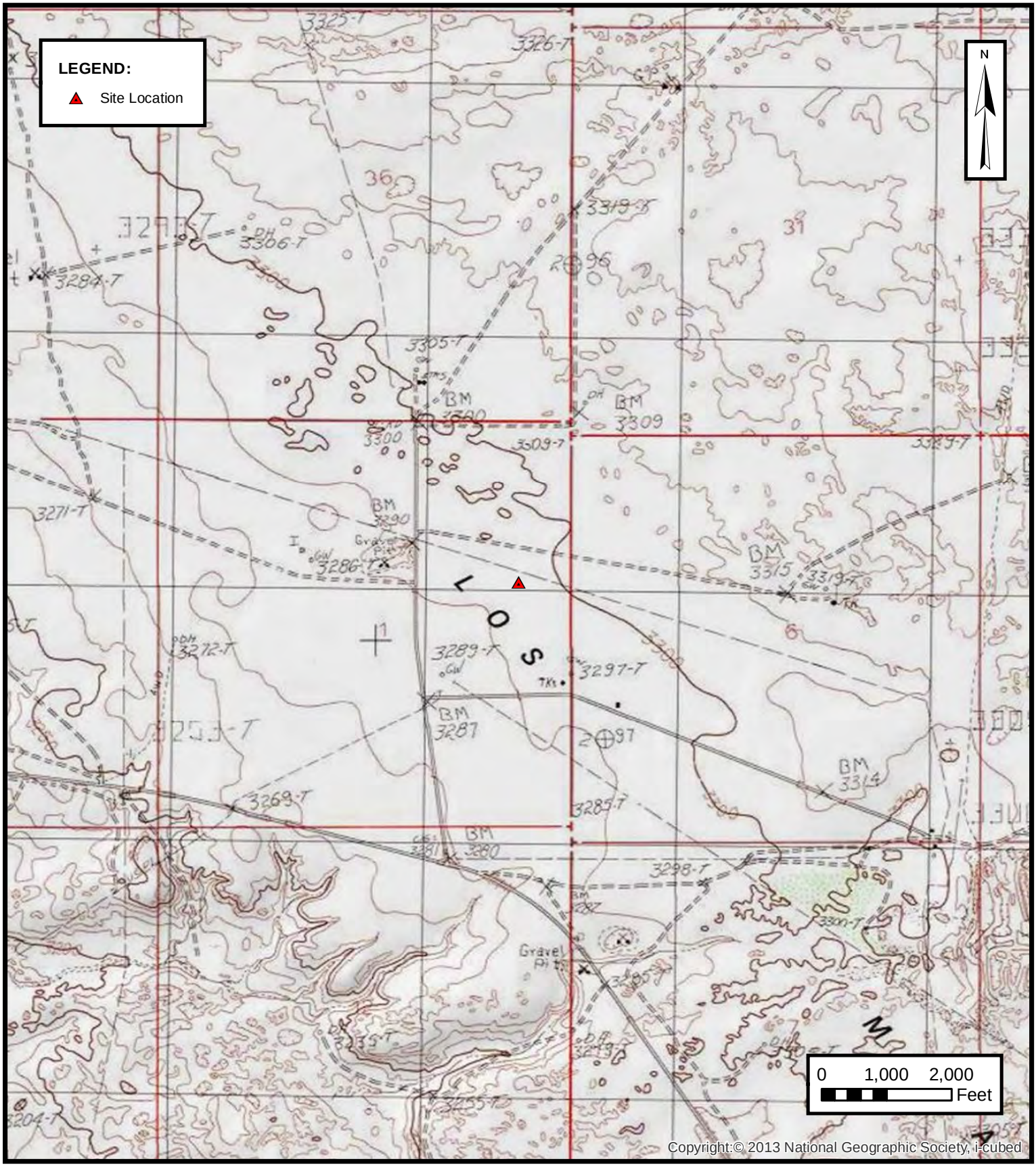
# FIGURES

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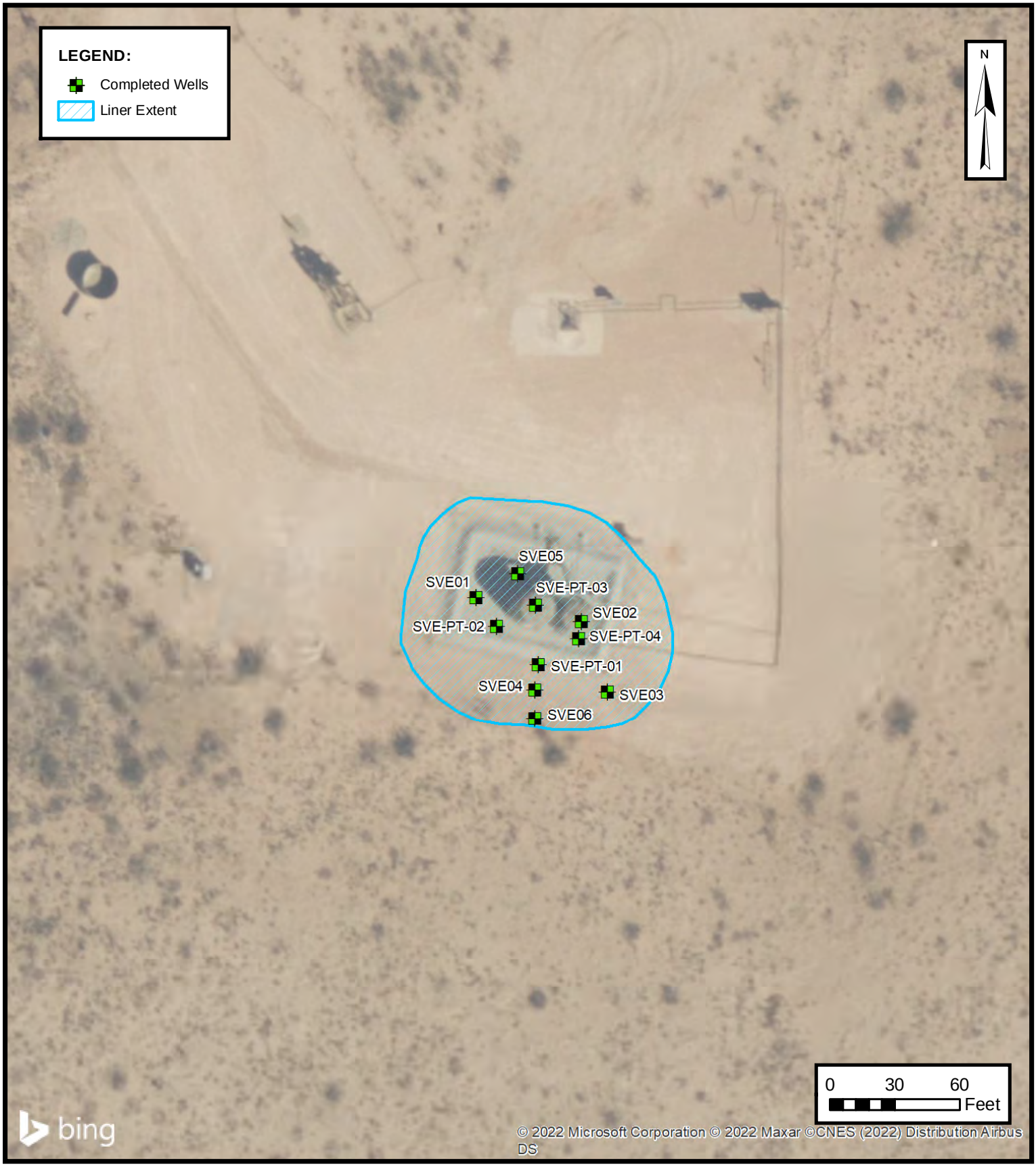
Environmental & Hydrogeologic Consultants

**SITE LOCATION MAP**

XTO ENERGY, INC
JAMES RANCH UNIT #10 BATTERY
Unit H, Sec 1, T23S, R30E
Eddy County, New Mexico

**FIGURE**
**1**

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Environmental & Hydrogeologic Consultants

**SVE SYSTEM CONFIGURATION**

XTO ENERGY, INC
JAMES RANCH UNIT #10 BATTERY
Unit H, Sec 1, T23S, R30E
Eddy County, New Mexico

**FIGURE**
**2**

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# TABLES

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# TABLE 1
## SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS
### James Ranch Unit #10 Battery
### XTO Energy
### Eddy County, New Mexico

| Date | Runtime Meter Hours | Delta Hours |
|---|---|---|
| 9/12/2024 | 8,748.0 | -- |
| 12/11/2024 | 9,567.0 | 819.0 |

| Time Period | September 12 to September 30, 2024 | October 1 to October 31, 2024 | November 1 to November 31, 2024 | December 1 to November 11, 2024 |
|---|---|---|---|---|
| Days | 17 | 31 | 31 | 11 |
| Avg. Nominal Daylight Hours | 12 | 11 | 10 | 9 |
| Available Runtime Hours | 204 | 341 | 310 | 99 |

| | |
|---|---|
| **Quarterly Available Daylight Runtime Hours** | **954** |
| **Quarterly Runtime Hours** | **819.0** |
| **Quarterly % Runtime** | **85.8%** |

| Month | Days | Nominal Daylight Hours | Total Month Hours |
|---|---|---|---|
| January | 31 | 9 | 279 |
| February | 28 | 10 | 280 |
| March | 31 | 11 | 341 |
| April | 30 | 12 | 360 |
| May | 31 | 13 | 403 |
| June | 30 | 14 | 420 |
| July | 31 | 14 | 434 |
| August | 31 | 13 | 403 |
| September | 30 | 12 | 360 |
| October | 31 | 11 | 341 |
| November | 30 | 10 | 300 |
| December | 31 | 9 | 279 |

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# TABLE 2
## SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
James Ranch Unit #10 Battery
XTO Energy
Eddy County, New Mexico

**Laboratory Analytical Results**

| Date | PID (ppm) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | TVPH (µg/L) |
|---|---|---|---|---|---|---|
| 5/27/2022* | 679 | 12.6 | 40.5 | *10.0* | 34.6 | 12,500 |
| 6/8/2022* | 901 | 21.0 | 210 | 9.90 | 434 | 35,000 |
| 6/20/2022* | 960 | 21.2 | 199 | *10* | 225 | 20,200 |
| 7/18/2022* | 535 | 17.1 | 138 | 11.1 | 252 | 14,400 |
| 8/15/2022* | 987 | *50.0* | 135 | *50.0* | 227 | 12,300 |
| 9/19/2022 | 380 | *10.0* | 54.9 | *10.0* | 110 | 4,830 |
| 12/19/2022 | 337 | *10.0* | 27.7 | *10.0* | 47.1 | 3,030 |
| 3/15/2023 | 245 | *10.0* | 25.2 | *10.0* | 29.4 | 1,630 |
| 6/14/2023 | 323 | *10.0* | 29.2 | *10.0* | 54.9 | 2,180 |
| 9/20/2023 | 611 | *10.0* | 43.4 | *10.0* | 106 | 5,210 |
| 12/14/2023 | 278 | *10.0* | 30.3 | *10.0* | 78.4 | 3,820 |
| 3/13/2024 | 358 | *10.0* | 29.0 | *10.0* | 80.8 | 2,900 |
| 7/2/2024 | 260 | *10.0* | 16.9 | *10.0* | 29.5 | 870 |
| 9/12/2024 | 391 | *10.0* | 17.4 | *10.0* | 36.7 | 841 |
| 12/11/2024 | 168 | *10.0* | 11.6 | *10.0* | 24.4 | 455 |
| **Average** | 494 | 14.8 | 67 | 12.7 | 118 | 8,011 |

**Flow and Vapor Extraction Summary**

| Date | Flow Rate (cfm)[1] | Total System Flow (cf) | Delta Flow (cf) | Benzene (lb/hr) | Toluene (lb/hr) | Ethylbenzene (lb/hr) | Total Xylenes (lb/hr) | TVPH (lb/hr) |
|---|---|---|---|---|---|---|---|---|
| 5/27/2022 | 140 | 0 | -- | -- | -- | -- | -- | -- |
| 6/8/2022 | 113 | 1,046,154 | 1,046,154 | 0.00710 | 0.0529 | 0.00421 | 0.0990 | 10.0 |
| 6/20/2022 | 105 | 2,047,854 | 1,001,700 | 0.00829 | 0.0803 | 0.00391 | 0.129 | 10.8 |
| 7/18/2022 | 70 | 3,572,454 | 1,524,600 | 0.00501 | 0.0441 | 0.00276 | 0.0624 | 4.53 |
| 8/15/2022 | 98 | 5,656,098 | 2,083,644 | 0.0123 | 0.0501 | 0.0112 | 0.0879 | 4.90 |
| 9/19/2022 | 138 | 8,742,054 | 3,085,956 | 0.0155 | 0.0490 | 0.0155 | 0.0870 | 4.42 |
| 12/19/2022 | 150 | 15,449,754 | 6,707,700 | 0.00561 | 0.0232 | 0.00561 | 0.0441 | 2.20 |
| 3/15/2023 | 141 | 21,230,472 | 5,780,718 | 0.00527 | 0.0139 | 0.00527 | 0.0202 | 1.23 |
| 6/14/2023 | 132 | 29,220,168 | 7,989,696 | 0.00494 | 0.0134 | 0.00494 | 0.0208 | 0.940 |
| 9/20/2023 | 132 | 38,728,920 | 9,508,752 | 0.00494 | 0.0179 | 0.00494 | 0.0397 | 1.82 |
| 12/14/2023 | 149 | 45,377,598 | 6,648,678 | 0.00557 | 0.0205 | 0.00557 | 0.0514 | 2.52 |
| 3/13/2024[2] | 133 | 50,950,830 | 5,573,232 | 0.00497 | 0.0147 | 0.00497 | 0.0396 | 1.67 |
| 7/2/2024 | 146 | 62,898,594 | 11,947,764 | 0.00546 | 0.0125 | 0.00546 | 0.0301 | 1.03 |
| 9/12/2024 | 149 | 70,953,534 | 8,054,940 | 0.00557 | 0.0096 | 0.00557 | 0.0184 | 0.48 |
| 12/11/2024 | 162 | 78,914,214 | 7,960,680 | 0.00606 | 0.0088 | 0.00606 | 0.0185 | 0.39 |
| | | | **Average** | 0.00690 | 0.0294 | 0.00614 | 0.0535 | 3.36 |

**Mass Removal and Emissions Summary**

| Date | Total SVE System Hours | Delta Hours | Benzene (pounds) | Toluene (pounds) | Ethylbenzene (pounds) | Total Xylenes (pounds) | TVPH (pounds) | TVPH (tons) |
|---|---|---|---|---|---|---|---|---|
| 5/27/2022 | 0 | 0 | -- | -- | -- | -- | -- | -- |
| 6/8/2022 | 154 | 154 | 1.10 | 8.17 | 0.649 | 15.3 | 1,549 | 0.774 |
| 6/20/2022 | 313 | 159 | 1.32 | 12.8 | 0.621 | 20.6 | 1,723 | 0.862 |
| 7/18/2022 | 676 | 363 | 1.82 | 16.0 | 1.00 | 22.7 | 1,644 | 0.822 |
| 8/15/2022 | 1,030 | 354 | 4.36 | 17.7 | 3.97 | 31.1 | 1,734 | 0.867 |
| 9/19/2022 | 1,403 | 373 | 5.77 | 18.3 | 5.77 | 32.4 | 1,648 | 0.824 |
| 12/19/2022 | 2,148 | 745 | 4.18 | 17.3 | 4.18 | 32.8 | 1,643 | 0.822 |
| 3/15/2023 | 2,832 | 683 | 3.60 | 9.5 | 3.60 | 13.8 | 840 | 0.420 |
| 6/14/2023 | 3,840 | 1,009 | 4.98 | 13.5 | 4.98 | 21.0 | 949 | 0.474 |
| 9/20/2023 | 5,041 | 1,201 | 5.93 | 21.5 | 5.93 | 47.7 | 2,190 | 1.10 |
| 12/14/2023 | 5,785 | 744 | 4.14 | 15.3 | 4.14 | 38.2 | 1,871 | 0.936 |
| 3/13/2024 | 6,483 | 698 | 3.47 | 10.3 | 3.47 | 27.7 | 1,167 | 0.584 |
| 7/2/2024 | 7,847 | 1,364 | 7.45 | 17.1 | 7.45 | 41.1 | 1,404 | 0.702 |
| 9/12/2024 | 8,748 | 901 | 5.02 | 8.6 | 5.02 | 16.6 | 430 | 0.215 |
| 12/11/2024 | 9,567 | 819 | 4.96 | 7.2 | 4.96 | 15.2 | 322 | 0.161 |
| | | **Total Mass Recovery to Date** | 58.1 | 193.3 | 55.8 | 376 | 19,113 | 9.56 |

***Notes:***

*(1): average flow calculated from telemetry data beginning 9/21/2023*

*(2): flow rate for 3/13/2024 calcs based on January and February telemetry plus March site visit due to telemetry issues*

*cf: cubic feet*

*cfm: cubic feet per minute*

*µg/L: micrograms per liter*

*lb/hr: pounds per hour*

*--: not sampled*

*PID: photoionization detector*

*ppm: parts per million*

*SVE: soil vapor extraction*

*TVPH: total volatile petroleum hydrocarbons*

*gray: laboratory reporting limit used for calculating emissions*

**: analytical results differ from those reported in the August 23, 2022 "Solar SVE System Update" due to unit conversion errors*

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# APPENDIX A

# Field Notes

Location _____ Date 10-8-24

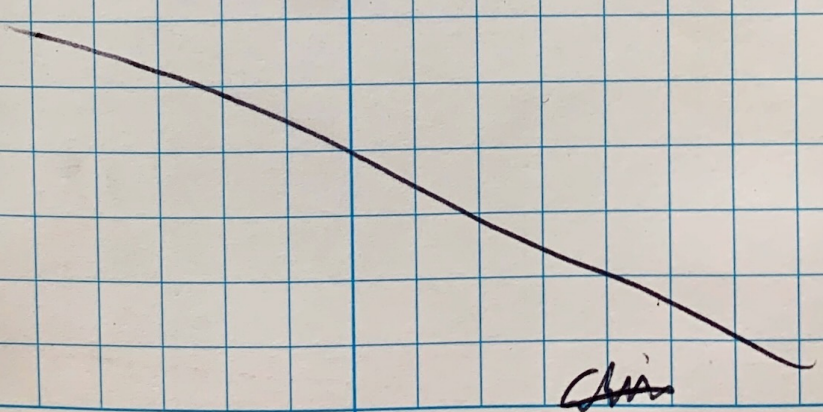
Project / Client XTO JRU 10 SVE O&M

CW

9:40 on site Sunny System System running

Main vac: 34 (in $H_2O$)
Runtime: 9043 (hr)
Flow: 124 (cfm)

| Wells | (in $H_2O$) | |
|---|---|---|
| 02 | 24 | |
| PTO4 | 27 | |
| PTO1 | 26 | |
| 03 | N/A | valve closed |
| 05 | 26 | |
| PTO3 | 25 | |
| 01 | 25 | |
| 04 | 25 | |
| 06 | N/A | valve closed |
| PTO2 | 27 | |



CW

XTO JRV 10 SVE 11-8-24

10:15 on site partly cloudy/scattered showers

System running, KO tank 1/8 full

Main Vac: 42 in $H_2O$

Runtime: 9342 hrs

Flow: 156 cfm

| Wells | Vac (in $H_2O$) |
|---|---|
| 02 | 31 |
| PTO4 | 35 |
| PTO1 | 33 |
| 03 | NA |
| 05 | 32 |
| PTO3 | 33 |
| 01 | 32 |
| 04 | 32 |
| 06 | NA |
| PTO2 | 32 |

10:45 offsite

54

Location _____ Date 12-11-24

Project / Client JRV 10 O+M / Sampling. CW

10:00 on site, sunny, system running
~35°F <1/8 in RO tank

Runtime: 9567 hr.

ManVac: 41 in $H_2O$

Flow: 150.9 CFM

Sampled! 10:28am → 2x1 Liter Tedlar collected

Effluent 53.5 ppm

Influent 168 ppm

| All wells | ($In.H_2O$) | (PID ppm) |
|---|---|---|
| 02 | 30 | 30.7 |
| PT04 | 32 | 251 |
| PT01 | 32 | 2063 |
| 03 | NA | valve closed |
| 05 | 31 | 357 |
| PT03 | 31 | 330 |
| 01 | 30 | 77.8 |
| 04 | 31 | 72.8 |
| 06 | NA | valve closed |
| PT02 | 32 | 61.8 |

11:15 offsite

CW

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# APPENDIX B

# Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Stuart Hyde
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 12/17/2024 11:43:57 AM

## JOB DESCRIPTION

JAMES RANCH UNIT #10
03C1558041

## JOB NUMBER

890-7463-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.





my EOL

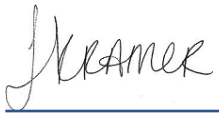
# Eurofins Carlsbad

## Job Notes

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

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

## Authorization



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12/17/2024 11:43:57 AM

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

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Laboratory Job ID: 890-7463-1
SDG: 03C1558041

# Table of Contents

# Definitions/Glossary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Qualifiers

### GC/MS VOA

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

## Glossary

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

# Case Narrative

Client: Ensolum Job ID: 890-7463-1
Project: JAMES RANCH UNIT #10

## Job ID: 890-7463-1 Eurofins Carlsbad

**Job Narrative**
**890-7463-1**

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

**Receipt**
The sample was received on 12/11/2024 4:35 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

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

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

# Client Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Client Sample ID: INFLUENT ALL WELLS

**Lab Sample ID: 890-7463-1**
**Matrix: Air**
**Date Collected: 12/11/24 10:28**
**Date Received: 12/11/24 16:35**
**Sample Container: Tedlar Bag 1L**

### Method: SW846 8260C GRO - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Gasoline Range Organics** | **455000** | | 50000 | | ug/m3 | | | 12/13/24 15:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *12/13/24 15:24* | *1* |

### Method: SW846 8260C - Volatile Organic Compounds (GCMS)

| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 15:24 | 1 |
| **Toluene** | **11600** | | 10000 | | ug/m3 | | | 12/13/24 15:24 | 1 |
| Ethylbenzene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 15:24 | 1 |
| **m,p-Xylenes** | **24400** | | 20000 | | ug/m3 | | | 12/13/24 15:24 | 1 |
| o-Xylene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 15:24 | 1 |
| **Xylenes, Total** | **24400** | | 20000 | | ug/m3 | | | 12/13/24 15:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *70 - 135* | | *12/13/24 15:24* | *1* |

# Surrogate Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Method: 8260C - Volatile Organic Compounds (GCMS)

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | BFB | | | | | | | |
| Lab Sample ID | Client Sample ID | (70-135) | | | | | | | |
| 890-7463-1 | INFLUENT ALL WELLS | 101 | | | | | | | |
| LCS 860-205303/3 | Lab Control Sample | 97 | | | | | | | |
| LCSD 860-205303/4 | Lab Control Sample Dup | 96 | | | | | | | |
| MB 860-205303/7 | Method Blank | 97 | | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

## Method: 8260C GRO - Volatile Organic Compounds (GC/MS)

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

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | BFB | | | | | | | |
| Lab Sample ID | Client Sample ID | (60-140) | | | | | | | |
| 890-7463-1 | INFLUENT ALL WELLS | 101 | | | | | | | |
| LCS 860-205301/4 | Lab Control Sample | 101 | | | | | | | |
| LCSD 860-205301/5 | Lab Control Sample Dup | 98 | | | | | | | |
| MB 860-205301/7 | Method Blank | 99 | | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Method: 8260C - Volatile Organic Compounds (GCMS)

**Lab Sample ID: MB 860-205303/7**
**Matrix: Air**
**Analysis Batch: 205303**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 14:58 | 1 |
| Toluene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 14:58 | 1 |
| Ethylbenzene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 14:58 | 1 |
| m,p-Xylenes | <20000 | U | 20000 | | ug/m3 | | | 12/13/24 14:58 | 1 |
| o-Xylene | <10000 | U | 10000 | | ug/m3 | | | 12/13/24 14:58 | 1 |
| Xylenes, Total | <20000 | U | 20000 | | ug/m3 | | | 12/13/24 14:58 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 135* | | *12/13/24 14:58* | *1* |

**Lab Sample ID: LCS 860-205303/3**
**Matrix: Air**
**Analysis Batch: 205303**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 50000 | 44050 | | ug/m3 | | 88 | 70 - 125 | | |
| Toluene | | | 50000 | 46460 | | ug/m3 | | 93 | 70 - 125 | | |
| Ethylbenzene | | | 50000 | 48870 | | ug/m3 | | 98 | 70 - 125 | | |
| m,p-Xylenes | | | 50000 | 49830 | | ug/m3 | | 100 | 70 - 125 | | |
| o-Xylene | | | 50000 | 50380 | | ug/m3 | | 101 | 70 - 125 | | |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *70 - 135* |

**Lab Sample ID: LCSD 860-205303/4**
**Matrix: Air**
**Analysis Batch: 205303**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | | | 50000 | 45230 | | ug/m3 | | 90 | 70 - 125 | 3 | 35 |
| Toluene | | | 50000 | 47210 | | ug/m3 | | 94 | 70 - 125 | 2 | 35 |
| Ethylbenzene | | | 50000 | 50040 | | ug/m3 | | 100 | 70 - 125 | 2 | 35 |
| m,p-Xylenes | | | 50000 | 50810 | | ug/m3 | | 102 | 70 - 125 | 2 | 35 |
| o-Xylene | | | 50000 | 51440 | | ug/m3 | | 103 | 70 - 125 | 2 | 35 |

| *Surrogate* | *LCSD %Recovery* | *LCSD Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *96* | | *70 - 135* |

## Method: 8260C GRO - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 860-205301/7**
**Matrix: Air**
**Analysis Batch: 205301**

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

| Analyte | MB Result | MB Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | <50000 | U | 50000 | | ug/m3 | | | 12/13/24 14:35 | 1 |

# QC Sample Results

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Method: 8260C GRO - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 860-205301/7**
**Matrix: Air**
**Analysis Batch: 205301**

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

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 99 | | 60 - 140 | | 12/13/24 14:35 | 1 |

**Lab Sample ID: LCS 860-205301/4**
**Matrix: Air**
**Analysis Batch: 205301**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | | | 500000 | 462100 | | ug/m3 | | 92 | 60 - 140 | | |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 101 | | 60 - 140 |

**Lab Sample ID: LCSD 860-205301/5**
**Matrix: Air**
**Analysis Batch: 205301**

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

| Analyte | | | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | | | 500000 | 446500 | | ug/m3 | | 89 | 60 - 140 | 3 | 35 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 98 | | 60 - 140 |

# QC Association Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## GC/MS VOA

### Analysis Batch: 205301

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-7463-1 | INFLUENT ALL WELLS | Total/NA | Air | 8260C GRO | |
| MB 860-205301/7 | Method Blank | Total/NA | Air | 8260C GRO | |
| LCS 860-205301/4 | Lab Control Sample | Total/NA | Air | 8260C GRO | |
| LCSD 860-205301/5 | Lab Control Sample Dup | Total/NA | Air | 8260C GRO | |

### Analysis Batch: 205303

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 890-7463-1 | INFLUENT ALL WELLS | Total/NA | Air | 8260C | |
| MB 860-205303/7 | Method Blank | Total/NA | Air | 8260C | |
| LCS 860-205303/3 | Lab Control Sample | Total/NA | Air | 8260C | |
| LCSD 860-205303/4 | Lab Control Sample Dup | Total/NA | Air | 8260C | |

# Lab Chronicle

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Client Sample ID: INFLUENT ALL WELLS

**Date Collected: 12/11/24 10:28**
**Date Received: 12/11/24 16:35**

## Lab Sample ID: 890-7463-1

**Matrix: Air**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 5 mL | 5 mL | 205303 | 12/13/24 15:24 | KLV | EET HOU |
| Total/NA | Analysis | 8260C GRO | | 1 | 5 mL | 5 mL | 205301 | 12/13/24 15:24 | KLV | EET HOU |

**Laboratory References:**

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

# Accreditation/Certification Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

## Laboratory: Eurofins Houston

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

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Texas | NELAP | T104704215 | 06-30-25 |

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

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| 8260C | | Air | Benzene |
| 8260C | | Air | Ethylbenzene |
| 8260C | | Air | m,p-Xylenes |
| 8260C | | Air | o-Xylene |
| 8260C | | Air | Toluene |
| 8260C | | Air | Xylenes, Total |
| 8260C GRO | | Air | Gasoline Range Organics |

# Method Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds (GCMS) | SW846 | EET HOU |
| 8260C GRO | Volatile Organic Compounds (GC/MS) | SW846 | EET HOU |
| 5030C | Collection/Prep Tedlar Bag (P&T) | SW846 | EET HOU |

**Protocol References:**

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

**Laboratory References:**

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

# Sample Summary

Client: Ensolum
Project/Site: JAMES RANCH UNIT #10

Job ID: 890-7463-1
SDG: 03C1558041

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 890-7463-1 | INFLUENT ALL WELLS | Air | 12/11/24 10:28 | 12/11/24 16:35 |

XENCO LABORATORIES

Setting the Standard since 1990

# AIR SAMPLING CHAIN OF CUSTODY

890-7463 Chain of Custody

Xenco Job #:

12/17/2024

Stafford,Texas (281-240-4200) San Antonio, Texas (...) ...enix, Arizona (480-355-0900)

Dallas, Texas (214-902-0300) Lubbock, TX (806-794-1296) Midland, TX (432-704-5251) El Paso, TX (915-585-3443)

Page ___ of ___

## Client/Project Information

Company Name: Ensolum

Project Contact: Stuart Hyde

Email: shyde@ensolum.com Ph.No.: 337-257-8307

Project Name & No.: James Ranch Unit #10, 03C1558041

Site Location: Rural Eddy, NM

Cost Center: 1135831001 AFE: EW.2019.03368.EXP.01

Sampler(s): Connor Whitman

AIR TYPE: I = Indoor SV = Soil Vapor A = Ambient

## Sampling Equipment Information

## Analysis Requested

| Lab # | Field ID/Point of Collection | Start Date | Start Time | Stop Date | Stop Time | AIR TYPE | Canister ID | Flow Regulator ID | Canister Pressure in field ("Hg) Start | Canister Pressure in field ("Hg) Stop | Incoming Canister Pressure ("Hg) Lab | TVPH(8015) | BTEX(8021) | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Influent All Wells | 12-11-24 | 10:28 | 12-11-24 | 10:28 | SV | | | | | | X | X | | | | 2x 1L Tedlar bags |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
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| | | |
|---|---|---|
| (1) Relinquished By: | Date/Time 12/11 16:35 | (1) Received By: |
| (2) Relinquished By: | Date/Time | (2) Received By: |
| (3) Relinquished By: | Date/Time | (3) Received By: |
| (4) Relinquished By: | Date/Time | (4) Received By: |

## Requested TAT

☐ Contract TAT ☐ 0 Day ☐ Same Day

☐ 7 Day ☐ 2 Day Need By:

☐ 5 Day ☐ 1 Day

## Shipping Information

☐ FedEx ☐ Other:

☐ UPS Tracking No.:

☐ LSO

Special Requests/Instructions: Collected 2-1 Liter Tedlar bags.

Bill to: Amy Ruth, XTO Energy, Inc., Address: 3104 E. Green St. Carlsbad, NM

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

# Chain of Custody Record

eurofins | Environment Testing

| Client Information (Sub Contract Lab) | Sampler: N/A | Lab PM: Kramer Jessica | Carrier Tracking No(s): N/A | COC No: 890-4411 1 |
|---|---|---|---|---|
| Client Contact: Shipping/Receiving | Phone: N/A | E-Mail: Jessica.Kramer@et.eurofinsus.com | State of Origin: New Mexico | Page: Page 1 of 1 |
| Company: Eurofins Environment Testing South Centr | | Accreditations Required (See note): NELAP Texas | | Job #: 890-7463-1 |
| Address: 4145 Greenbriar Dr | Due Date Requested: 12/13/2024 | | | Preservation Codes: |
| City: Stafford | TAT Requested (days): N/A | | | |
| State, Zip: TX, 77477 | | | | |
| Phone: 281-240-4200(Tel) | PO #: N/A | | | |
| Email: N/A | WO #: N/A | | | |
| Project Name: JAMES RANCH UNIT #10 | Project #: 89000093 | | | |
| Site: N/A | SSOW#: N/A | | | Other: N/A |

Analysis Requested

| Sample Identification - Client ID (Lab ID) | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 8260C_GRO/Tedlar_A_5030C GRO | 8260C_MOD/Tedlar_A_5030C BTEX | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | | | | |
| INFLUENT ALL WELLS (890-7463-1) | 12/11/24 | 10:28 Mountain | G | Air | | | X | X | 2 | |

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

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

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

| | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|---|
| | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: 12-12-24 1048 | Company |

| Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks: 23.3° IR-7 #8 |
|---|---|---|

Ver: 10/10/2024

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-7463-1
SDG Number: 03C1558041

**Login Number: 7463**
**List Number: 1**
**Creator: Bruns, Shannon**

**List Source: Eurofins Carlsbad**

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

# Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-7463-1
SDG Number: 03C1558041

**Login Number: 7463**
**List Number: 2**
**Creator: Grandits, Corey**

**List Source: Eurofins Houston**
**List Creation: 12/13/24 11:56 AM**

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

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

General Information
Phone: (505) 629-6116

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

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



## CONDITIONS

| | |
|---|---|
| Operator:<br>XTO ENERGY, INC<br>6401 Holiday Hill Road<br>Midland, TX 79707 | OGRID:<br>5380 |
| | Action Number:<br>425794 |
| | Action Type:<br>[REPORT] Alternative Remediation Report (C-141AR) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| nvelez | SVE reviewed. 1. Continue with O & M schedule. 2. Submit next quarterly report by April 15, 2025. | 2/24/2025 |