ENSOLUM

July 31, 2024

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

Re: Second 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 *Second 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 April, May, and June 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 second 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 second 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 March 13, 2024, and July 2, 2024, approximately 1,409 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 1,363.9 hours, equating to a runtime efficiency of 96.8 percent (%). Run time 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. Table 1 presents the SVE system runtime compared to nominal available daylight hours per month.

VAPOR SAMPLING RESULTS

Due to a scheduling error, a second quarter 2024 vapor sample was not collected until July 2, 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 870 micrograms per liter (µg/L). In comparison, individual BTEX constituent concentrations range from below the laboratory reporting limits up to 29.5 µg/L in the second 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 18,362 pounds (9.18 tons) of TVPH have been removed by the system to date.

SYSTEM ADJUSTMENTS AND RECOMMENDATIONS

As noted in the *First Quarter 2024 – Solar SVE System Update*, telemetry flow readings could not be used to calculate average flow for March of 2024 as data logging has not been functioning properly since March 2, 2024. On April 19, 2024, it was identified that the telemetry issue was the result of a licensing error. The error was resolved with the system manufacturer thereafter.

A notable drop in TVPH was observed between the results of the first quarter 2024 vapor sample and second quarter 2024 vapor sample. Ensolum personnel are working to identify whether the drop in mass removal is due to a leak within the process stream allowing for fresh air to mix with the recovered vapor prior to the same port or whether the decrease is because less mass remains in the subsurface. 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 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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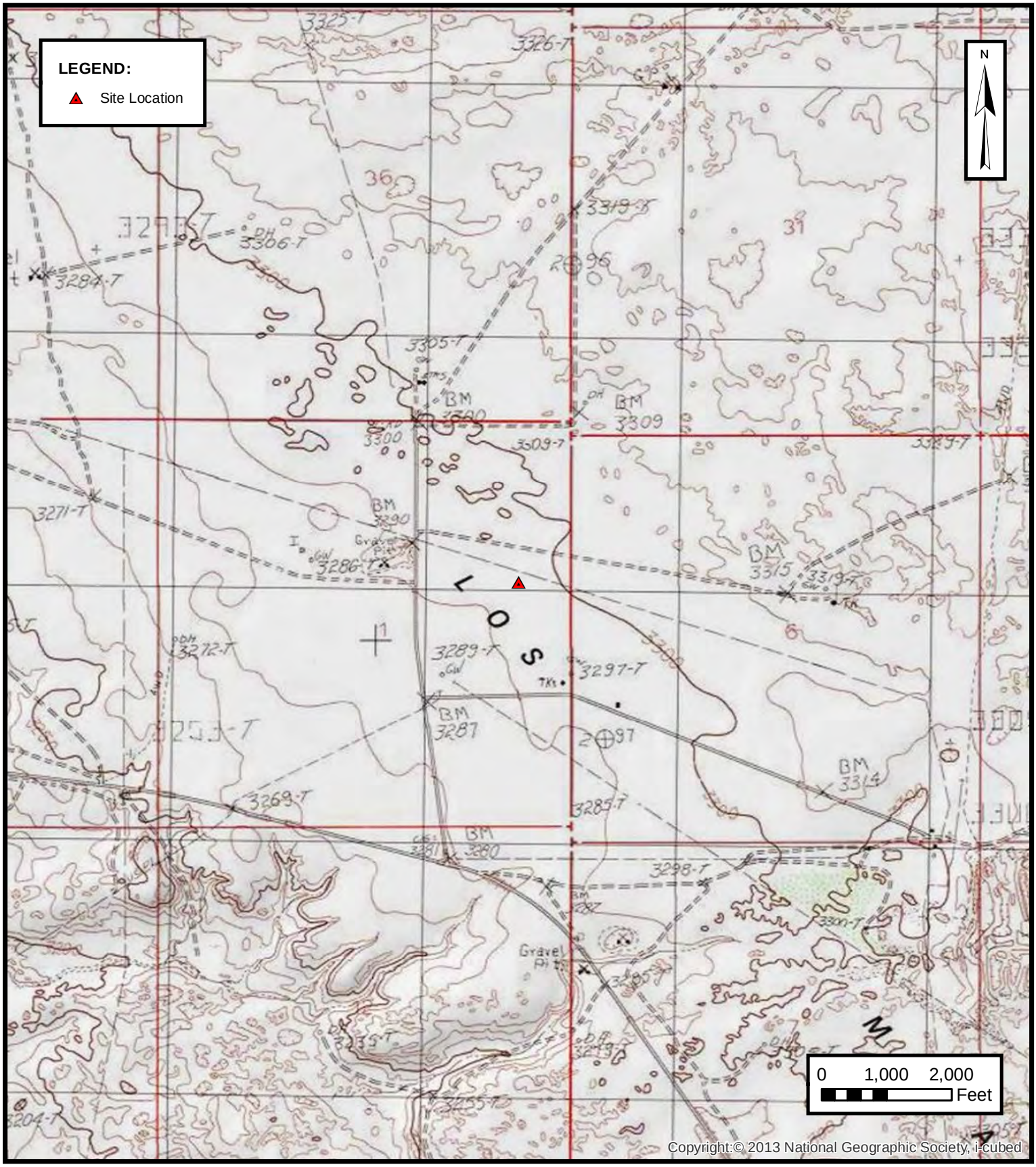
FIGURES



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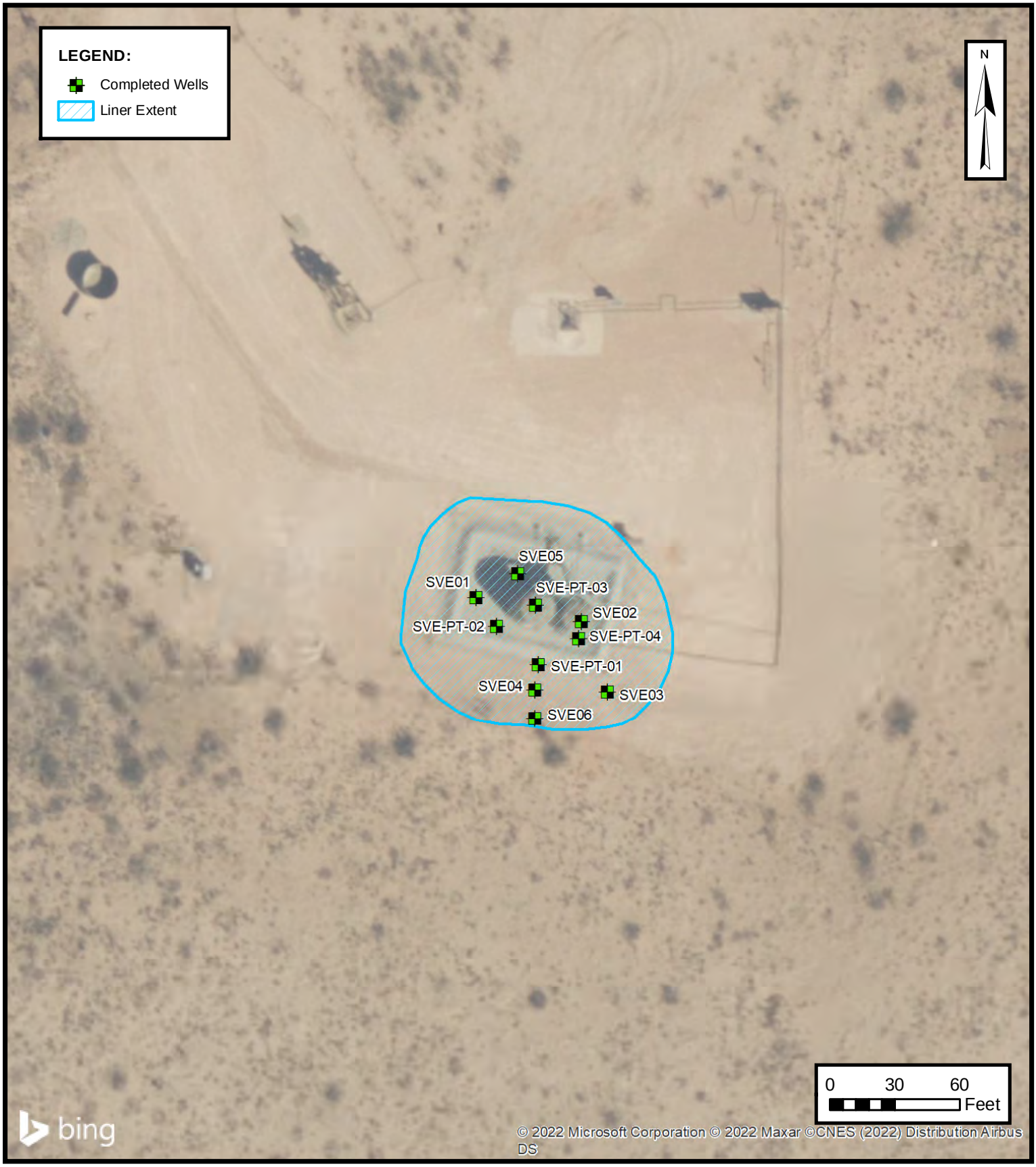
Environmental & Hydrogeologic Consultants

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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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
3/13/2024	6,483.1	--
7/2/2024	7,847.0	1,363.9

Time Period	March 13 to March 31, 2024	April 1 to April 30, 2024	May 1 to May 31, 2024	June 1 and June 30, 2024	July 1 and July 2, 2024
Days	18	30	31	30	2
Avg. Nominal Daylight Hours	11	12	13	14	14
Available Runtime Hours	198	360	403	420	28

Quarterly Available Daylight Runtime Hours	**1,409**
Quarterly Runtime Hours	**1,363.9**
Quarterly % Runtime	**96.8%**

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
Average	527	15.5	75	13.2	131	9,144

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
			Average	0.00708	0.0327	0.00619	0.0593	3.84

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
		Total Mass Recovery to Date	48.1	177.5	45.8	344	18,362	9.18

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 4-25-24

Project / Client XTO JRU 10 SVE O&M

CW

14:00 on site SVE running Sunny Clear
KO tank < 1/4 full

Main Vac: 36 in H_2O
Runtime: 7000 Hrs.
Flow: 138 cfm

	(in H_2O)	
02	26	
PT04	29	
PT01	29	
03	N/A	valve closed
05	28	
PT03	27	
01	28	
04	28	
06	N/A	valve closed
PT02	30	

14:15 offsite

Location _____ Date 5-20-24

Project / Client XTO JRU 10 SVE O&M MO

8:15 on site SVE running 70° sunny, clear
KO tank empty (no water in tube)

Main Vac: 27 in H_2O
Runtime: 7314.5 Hrs
Flow: 112.7 cfm

Wells:	(in H_2O)	
02	19	
PT04	21	
PT01	18	
03	N/A	valve closed
05	21	
PT03	20	
01	20	
04	20	
06	N/A	valve closed
PT02	22	

8:50 offsite

48 Location Date 6-11-24

Project / Client XTO JRU 1E

CV JB

9:45	on site system running, clear/sunny		
	KO tank @ no water		
	Norm vac	30 in H_2O	
	Runtime	7598.1 Hrs	
	Flow	120 cfm	
	wells	(in H_2O)	
	SVE02	22	
	PTO4	25	
	PTO1	24	
	03	N/A	valve closed
	05	24	
	PTO3	23	
	01	23	
	04	23	
	06	N/A	valve closed
	PTO2	25	
	:		
1005	offsite		

CHP

Location _____ Date 7-24

Project / Client XTO JRU 10 Sampling

CW

8:10 on site + JSA, sunny system running

Main Vac: 25 in H_2O
Run time: 7847
Flow: 106.5 CFM

Influent all wells: 259.9 ppm

SVE wells	(in H2O)	
02	18	
PTO4	22	
PTO1	20	
03	NA	valve closed
05	20	
PTO3	20	
01	20	
04	20	
06	NA	valve closed
PTO2	22	

8:35 Sample collected, (2) Tedlar bags (1L each)

8:50 Eurofins picks up samples

~~off~~ Site

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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

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JOB DESCRIPTION

James Ranch Unit #10

JOB NUMBER

890-6877-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

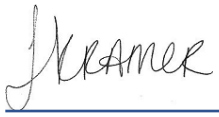
Eurofins Carlsbad

Job Notes

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

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

Authorization



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Revision 1

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: 890-6877-1

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-6877-1
Project/Site: James Ranch Unit #10

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: 890-6877-1
Project: James Ranch Unit #10

Job ID: 890-6877-1 Eurofins Carlsbad

Job Narrative
890-6877-1

REVISION

The report being provided is a revision of the original report sent on 7/15/2024. The report (revision 1) is being revised due to Per client phone call, reporting unit needs to be corrected.

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 samples were received on 7/2/2024 2:08 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C.

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: 890-6877-1

Client Sample ID: Influent All Wells

Lab Sample ID: 890-6877-2
Matrix: Air
Date Collected: 07/02/24 08:35
Date Received: 07/02/24 14:08
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	**870000**		50000		ug/m3			07/05/24 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*88*		*60 - 140*		*07/05/24 18:00*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<10000	U	10000		ug/m3			07/05/24 18:00	1
Toluene	**16900**		10000		ug/m3			07/05/24 18:00	1
Ethylbenzene	<10000	U	10000		ug/m3			07/05/24 18:00	1
m,p-Xylenes	**29500**		20000		ug/m3			07/05/24 18:00	1
o-Xylene	<10000	U	10000		ug/m3			07/05/24 18:00	1
Xylenes, Total	**29500**		20000		ug/m3			07/05/24 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*70 - 135*		*07/05/24 18:00*	*1*

Surrogate Summary

Client: Ensolum
Project/Site: James Ranch Unit #10

Job ID: 890-6877-1

Method: 8260C - Volatile Organic Compounds (GCMS)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	BFB (70-135)
890-6877-2	Influent All Wells	92
LCS 860-169725/3	Lab Control Sample	91
LCSD 860-169725/4	Lab Control Sample Dup	90
MB 860-169725/6	Method Blank	93

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)
Lab Sample ID	Client Sample ID	BFB (60-140)
890-6877-2	Influent All Wells	88
LCS 860-169724/4	Lab Control Sample	85
LCSD 860-169724/5	Lab Control Sample Dup	84
MB 860-169724/7	Method Blank	87

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit #10

Job ID: 890-6877-1

Method: 8260C - Volatile Organic Compounds (GCMS)

Lab Sample ID: MB 860-169725/6
Matrix: Air
Analysis Batch: 169725

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			07/05/24 16:29	1
Toluene	<10000	U	10000		ug/m3			07/05/24 16:29	1
Ethylbenzene	<10000	U	10000		ug/m3			07/05/24 16:29	1
m,p-Xylenes	<20000	U	20000		ug/m3			07/05/24 16:29	1
o-Xylene	<10000	U	10000		ug/m3			07/05/24 16:29	1
Xylenes, Total	<20000	U	20000		ug/m3			07/05/24 16:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*70 - 135*		*07/05/24 16:29*	*1*

Lab Sample ID: LCS 860-169725/3
Matrix: Air
Analysis Batch: 169725

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			50000	46860		ug/m3		94	70 - 125		
Toluene			50000	45550		ug/m3		91	70 - 125		
Ethylbenzene			50000	42940		ug/m3		86	70 - 125		
m,p-Xylenes			50000	42900		ug/m3		86	70 - 125		
o-Xylene			50000	43500		ug/m3		87	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 135*

Lab Sample ID: LCSD 860-169725/4
Matrix: Air
Analysis Batch: 169725

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	47670		ug/m3		95	70 - 125	2	35
Toluene			50000	46020		ug/m3		92	70 - 125	1	35
Ethylbenzene			50000	43940		ug/m3		88	70 - 125	2	35
m,p-Xylenes			50000	43050		ug/m3		86	70 - 125	0	35
o-Xylene			50000	45010		ug/m3		90	70 - 125	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*70 - 135*

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

Lab Sample ID: MB 860-169724/7
Matrix: Air
Analysis Batch: 169724

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			07/05/24 16:29	1

QC Sample Results

Client: Ensolum
Project/Site: James Ranch Unit #10

Job ID: 890-6877-1

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

Lab Sample ID: MB 860-169724/7
Matrix: Air
Analysis Batch: 169724

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		60 - 140		07/05/24 16:29	1

Lab Sample ID: LCS 860-169724/4
Matrix: Air
Analysis Batch: 169724

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	415900		ug/m3		83	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		60 - 140

Lab Sample ID: LCSD 860-169724/5
Matrix: Air
Analysis Batch: 169724

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	412500		ug/m3		83	60 - 140	1	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	84		60 - 140

QC Association Summary

Client: Ensolum
Project/Site: James Ranch Unit #10

Job ID: 890-6877-1

GC/MS VOA

Analysis Batch: 169724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6877-2	Influent All Wells	Total/NA	Air	8260C GRO	
MB 860-169724/7	Method Blank	Total/NA	Air	8260C GRO	
LCS 860-169724/4	Lab Control Sample	Total/NA	Air	8260C GRO	
LCSD 860-169724/5	Lab Control Sample Dup	Total/NA	Air	8260C GRO	

Analysis Batch: 169725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-6877-2	Influent All Wells	Total/NA	Air	8260C	
MB 860-169725/6	Method Blank	Total/NA	Air	8260C	
LCS 860-169725/3	Lab Control Sample	Total/NA	Air	8260C	
LCSD 860-169725/4	Lab Control Sample Dup	Total/NA	Air	8260C	

Lab Chronicle

Client: Ensolum
Job ID: 890-6877-1
Project/Site: James Ranch Unit #10

Client Sample ID: Influent All Wells
Lab Sample ID: 890-6877-2
Date Collected: 07/02/24 08:35
Matrix: Air
Date Received: 07/02/24 14:08

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	169725	07/05/24 18:00	KLV	EET HOU
Total/NA	Analysis	8260C GRO		1	5 mL	5 mL	169724	07/05/24 18:00	KLV	EET HOU

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

Accreditation/Certification Summary

Client: Ensolum Job ID: 890-6877-1
Project/Site: James Ranch Unit #10

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: 890-6877-1

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: 890-6877-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-6877-2	Influent All Wells	Air	07/02/24 08:35	07/02/24 14:08

XENCO LABORATORIES

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #:

Stafford,Texas (281-240-4200) Phoenix, Arizona (480-355-0900)
Dallas, Texas (214-902-0300) 32-704-5251) El Paso, TX (915-585-3443)

890-6877 Chain of Custody

Page 1 of 1

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, 03E1558041
Site Location: Rural Eddy, NM
Cost Center: 1135831001 AFE: EW.2019.03368.EXP.01
Sampler(s): Connor Whitmor

AIR TYPE (I = Indoor Vapor, SV = Soil A = Ambient)

Sampling Equip. / 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	7-2-24	8:35	7-2-24	8:35	SV						X	X				

(1) Relinquished By:	Date/Time 8:56 7/2	(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 ☐ 3 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: ~~Garret Green~~, XTO Energy, Inc., Address: 3104 E. Green St. Carlsbad, NM
Amy Ruth

Login Sample Receipt Checklist

Client: Ensolum Job Number: 890-6877-1

Login Number: 6877 **List Source: Eurofins Carlsbad**
List Number: 1
Creator: Lopez, Abraham

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	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: 890-6877-1

Login Number: 6877
List Number: 2
Creator: Grandits, Corey

List Source: Eurofins Houston
List Creation: 07/05/24 12:19 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	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: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 367458
	Action Type: [REPORT] Alternative Remediation Report (C-141AR)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See App ID 425791 for most updated status.	2/21/2025