ENSOLUM

August 23, 2022

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
811 South First Street
Artesia, New Mexico 88210

Re: Solar SVE System Update
James Ranch Unit #10 Battery
Eddy County, New Mexico
XTO Energy, Inc.
NMOCD Incident Number NAB1535754357, NAB1521257588, and NAB1904653072

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), presents this *Solar SVE System Update* report summarizing the solar soil vapor extraction (SVE) system performance at the James Ranch Unit #10 Battery (Site), located in 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 since system startup through June, July, and August of 2022 to 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 at 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 sun power increases throughout the day.

Ten SVE wells are currently operational at the Site as depicted on Figure 2. In order to target soil impacts at different depth intervals, the screened intervals of the SVE wells were constructed 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 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 and 30 feet bgs. SVE wells SVE05, SVE06, and SVE-PT-01 target deep zone impacts and are screened at depths between 25 and 65 feet bgs.

SUMMARY OF SVE OPERATIONS

Between system startup on May 27, 2022 and August 15, 2022, Ensolum, LLC (Ensolum) personnel performed routine operation and maintenance (O&M) visits to verify 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 weekly for the first month of operation and monthly thereafter. Field notes taken during O&M visits are included in Appendix A. During the first three months of operation, all SVE wells were open and operational to induce air flow in the impacted zones at the Site. Between May 27 and August 15, 2022, approximately 1,101 total hours of available 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 1,030.3 hours, equating to a runtime efficiency of 93.6 percent (%). Table 1 presents the SVE system runtime compared to nominal available daylight hours per month. Runtime efficiency less than 100 % is generally due to weather conditions at the Site (i.e., cloud cover) that reduces the systems overall performance. No maintenance issues were reported during the first three months of operation that would have led to decreased runtime efficiency.

AIR SAMPLING RESULTS

During the first three months of operation, air samples were collected during six of the O&M visits from a sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler. Prior to collection, the emission sample was field screened with a photoionization detector (PID) for organic vapor monitoring (OVM). The emission sample was collected directly into two 1-Liter Tedlar® bags and submitted to Eurofins in Carlsbad, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known as total petroleum hydrocarbons – gasoline range organics (TPH-GRO)) and benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260C. The sample collected on June 8, 2022 was additionally analyzed for the full suite of volatile organic compounds by EPA Method TO-15 and fixed gases by American Society of Testing and Materials (ASTM) Method D 1946.

In general, TVPH accounts for the majority contaminant mass, with results ranging between 3,010 and 8,600 micrograms per liter (µg/L). In comparison, BTEX concentrations range from below the laboratory reporting limits up to 58.0 µg/L. 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.

Air 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 1,627 pounds (0.813 tons) of TVPH and 1,660 pounds (0.830 tons) of total volatile contaminants (BTEX and TVPH) have been removed by the system to date.

RECOMMENDATIONS

Monthly O&M visits will continue to be performed by Ensolum personnel to verify that 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 mg/L and/or asymptotic conditions are observed. At that time, an evaluation of residual petroluem hydrocarbons will be assessed and further recommendations for remedial actions, if any, will be provided to the NMOCD.

XTO will provide the NMOCD with the next update report after the end of the fourth quarter 2022. The upcoming report will document activities and analytical results collected at the Site from August 15, 2022 through December 31, 2022. Subsequent reports will be submitted to the NMOCD on a quarterly basis.

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, LG
Senior Geologist
(970) 903-1607
shyde@ensolum.com

Daniel R. Moir, PG
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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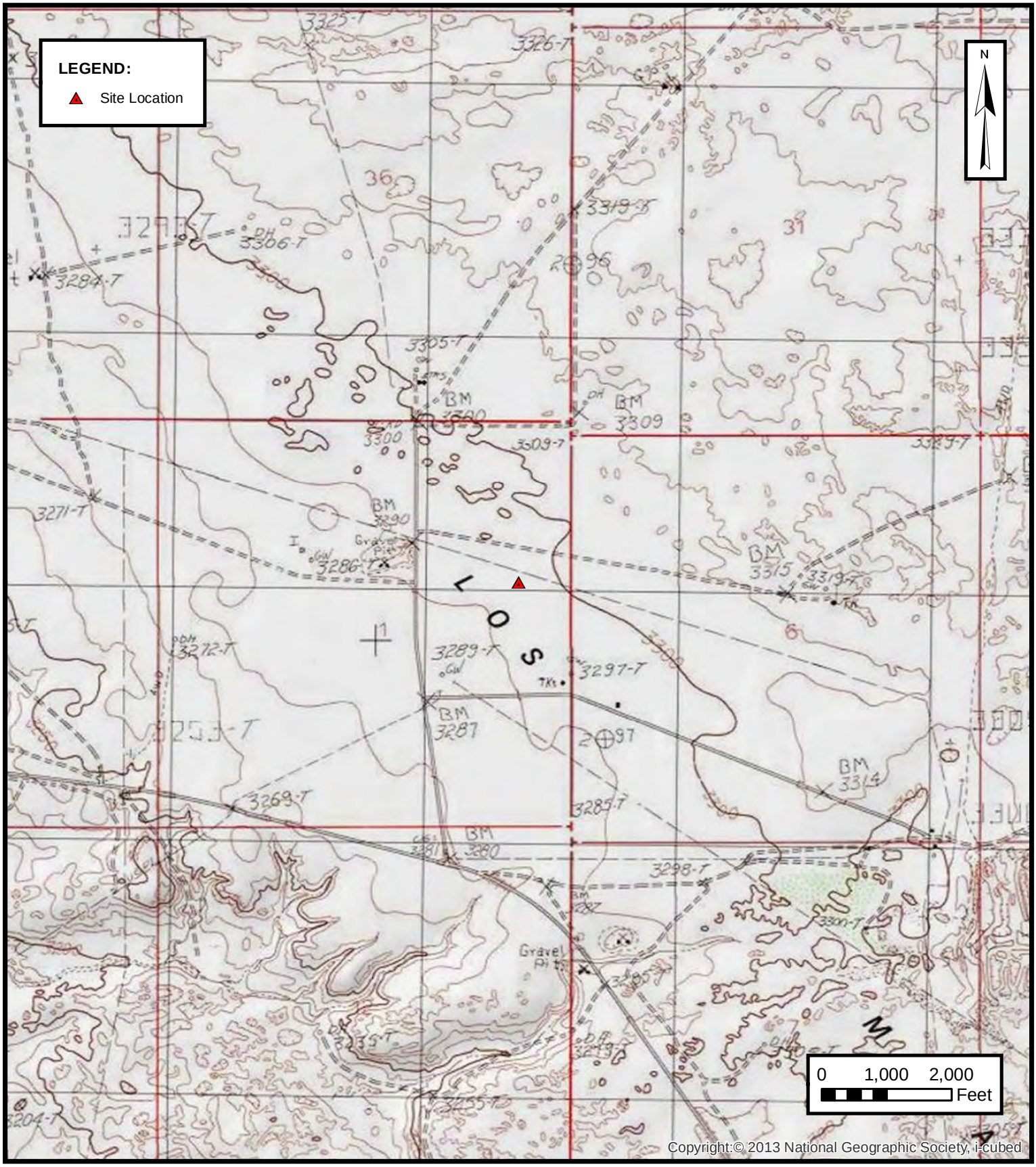
FIGURES



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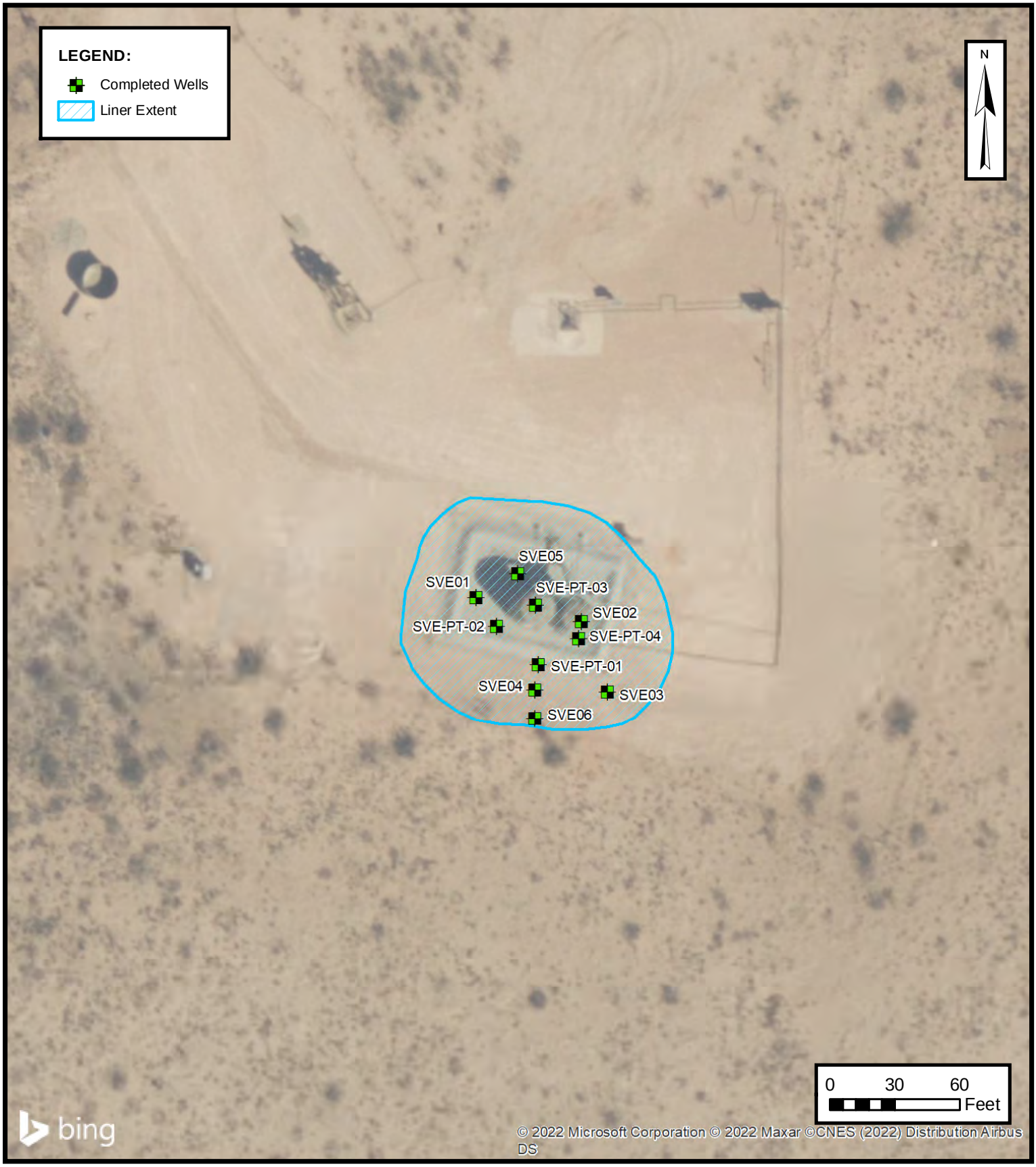
Environmental & Hydrogeologic Consultants

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
Ensolum Project No. 03E1558041

Date	Runtime Meter Hours	Delta Hours
5/27/2022	0.0	---
8/15/2022	1,030.3	1,030.3

Time Period	May 27 to May 31, 2022	June 1 to June 30, 2022	July 1 to July 31, 2022	August 1 to August 15, 2022
Days	4	30	31	15
Avg. Nominal Daylight Hours	13	14	14	13
Available Runtime Hours	52	420	434	195

Quarterly Available Daylight Runtime Hours	**1,101**
Quarterly Runtime Hours	**1,030.3**
Quarterly % Runtime	**93.6%**

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
Ensolum Project No. 03E1558041

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	3.95	10.7	*2.3*	7.98	3,050
6/8/2022	901	6.7	56	2.3	8.3	8,600
6/20/2022	960	6.65	52.8	*2.3*	51.8	4,930
7/18/2022	535	5.35	36.6	2.55	58.0	3,510
8/15/2022	987	*15.7*	35.9	*11.5*	52.2	3,010
Average	812	7.7	38	4.2	36	4,620

Flow and Vapor Extraction Summary

Date	Flow Rate (cfm)	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	0.00225	0.0141	0.000972	0.00344	2.46
6/20/2022	105	2,047,854	1,001,700	0.00262	0.0214	0.000903	0.0118	2.66
7/18/2022	70	3,572,454	1,524,600	0.00157	0.0117	0.000635	0.0144	1.10
8/15/2022	98	5,656,098	2,083,644	0.00386	0.01330	0.00258	0.02022	1.19610
			Average	0.00258	0.0151	0.00127	0.0125	1.85

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	0.347	2.17	0.150	0.531	380	0.190
6/20/2022	313	159	0.417	3.40	0.144	1.88	422	0.211
7/18/2022	676	363	0.570	4.25	0.230	5.22	401	0.201
8/15/2022	1,030	354	1.37	4.71	0.912	7.16	423	0.212
		Total Mass Recovery to Date	2.70	14.5	1.44	14.8	1,627	0.813

Notes:

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

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APPENDIX A

Field Notes

4 Location JRU 10 Date 5-24-22

Project / Client XTO

D. Burns

1210 - Turn on SVE system
All wells operational
Run meter @ 0.2 Hrs

1215 - Calibrate Mini RaeLite PID
w/ 100 ppm Isobutylene

1220 - Hr Meter 0.5 working ✓
Effluent PID - 952.7 pulling vapor ✓
Flow ~ 140 cfm
Vac ~ 35 in H_2O (IWC)
Influent PID - 678.9

	VAC	PID	Interval
SVE 02	24	694	
SVE PT04	24	862	
SVE PT01	26	1060	
SVE 03	26	145.4	
SVE 05	26	142.8	
SVE PT03	24	460.7	
SVE 01	24	755	
SVE 04	24	144.8	
SVE 06	26	421.5	
SVE PT 02	26	281.8	

1320 - Switched to only shallow wells operating.

Location JRU 10 Date 5.24.22

Project / Client XTO

DB

1325 - Hrs 1.6

Effluent / Exhaust Stack PID - 415.3

Total Flow - 117 cfm

Total Vac - 51 in H_2O

Influent Total PID - ~~415~~ 290

Shallow Well ON	VAC	PID
SVE 02	44	569
SVE 03	44	~~415~~ 779
SVE 01	~~46~~	840
SVE 04	44	~~146~~

1350 - Hrs - 2.0

Effluent/exhaust Stack PID - 635

TOTAL Flow - 125 cfm

TOTAL Vac - 44 in H_2O

Influent total PID - ~~700~~

Medium Well ON	VAC	PID
SVE PT04	~~38~~	~~905~~ 905
SVE PT03	39	958
SVE PT02	40	228

Rite in the Rain

6 Location JAL 10 Date 05.27.22

Project / Client XTO

1415 - Hrs - 2.5

Effluent exhaust stack PID - 775

total flow - 88 cfm

total vac - 78 In H_2O

INFLUENT TOTAL PID - 870

Deep Well on	Vac	PID
SVE PT 01	80	960
SVE 05	78	692
SVE 06	77	527

1500 - "Influent All Wells" air sample collected. 2 - Tedlar 1 Liter bags

PID: 570 ppm

1515

8

Location JRU 10 Date 6-8-22

Project / Client XTO / SVE SAMPLING

0700	PREP DOCS/EQUIP. @7:30 TRAVEL TO SITE
0820	ENSOLUM ON-SITE (GILBERT/CONNOR)
	-FILL OUT JSA, TAILGATE MEETING
0900	HR METER: 154.3 [hrs] WORKING ✓
	EFFLUENT PID: 924.1 [PPM] PULLING VAPORS ✓
	FLOW: ~113 [CFM]
	VAC: ~ 25.3 [in H_2O]
	INFLUENT PID: 901.3 [PPM]

	VAC (in H_2O)	PID (PPM)
SVE 02(S)	18	399.0
SVE PT 04(M)	22	1580.0
SVE PT 01(D)	22	1535.0
SVE 03(S)	22	277.0
SVE 05(D)	21	287.5
SVE PT 03(M)	20	500.1
SVE 01 (S)	20	801.0
SVE 04 (S)	20	145.9
SVE 06(D)	21	386.9
SVE PT 02(M)	22	202.4

0930 SWITCHED TO SHALLOW WELLS OPERATING

BILLING: TRUCK, PID, H-GAS, ~~SAMPLE~~ KIT, HIGH VAC AIR SAMPLING PUMP (2)

Location JRU 10 Date 6.8.22

Project / Client KTO / SVE SAMPLING

[SHALLOW WELLS ON]	VAC (in H_2O)	PID (PPM)
SVE 02(S)	34	354.6
SVE 03(S)	33	88.5
SVE 01(S)	33	782.0
SVE 04(S)	33	110.5

HR METER: 155.0 [hrs]
EFFLUENT PID: 86.4 [PPM]
FLOW : ~ 92.0 [CFM]
VAC : ~ 40.5 [in H_2O]
INFLUENT PID: 129.1 [PPM]

0945 SWITCHED TO MEDIUM WELLS OPERATING

HR METER: 155.3 [hrs]
EFFLUENT PID: 743.9 [PPM]
FLOW: ~ 113.3 [CFM]
VAC: ~ 37.8 [in H_2O]
INFLUENT PID: 1502 [PPM]

[MEDIUM WELLS ON]	VAC (in H_2O)	PID (PPM)
SVE PT 04(M)	34	1681
SVE PT 03(M)	32	596.5
SVE PT 02(M)	34	309.5

Rite in the Rain.

Location JAM 10 Date 6.8.22

Project / Client XTO / SVE SAMPLING CONTINUED...

1000 SWITCHED TO DEEP WELLS OPERATING

HR METER: 153.5 [Hrs]
EFFLUENT PID: 1025 [ppm]
FLOW: ~ 75.0 [CFM]
VAC: ~ 65.5 [in H_2O]
INFLUENT PID: 1207 [ppm]

[DEEP WELLS ON]

	VAC (in H_2O)	PID (ppm)
SVE PT 01 (D)	64	~~1207~~ 1339
SVE 05 (D)	63	364.8
SVE 06 (D)	68	530.6

1025 "INFLUENT ALL WELLS" AIR SAMPLE COLLECTED
2 TEDLAR 1 LITER BAGS
PID: 1070 [ppm] NOTE: FLOW, VACCUM (NEXT TRIP)

1040 - WALK THROUGH OF ALL WELLS (NO LEAKS)
- NO LIQUID IN KNOCK OUT TANK
- SOLAR PANELS GOOD

6.8.22

Location JRU 10 Date 06/20/22

Project / Client XTO / SVE SAMPLING

HR METER:	313.3	[hrs]
EFFLUENT PID:	665	[ppm]
FLOW: ~	105 cs	[cfm]
VAC: ~	22.8	[in H_2O]
INFLUENT PID:	960	[ppm]

[ALL WELLS ON]	VAC (in H_2O)	PID (ppm)
SVE 02 (s)	18	400
SVE PT 04 (m)	22	1442
SVE PT 01 (D)	22	1313
SVE 03 (s)	22	318
SVE 05 (D)	20	237
SVE PT 03 (m)	20	620
SVE 01 (s)	20	630
SVE 04 (s)	20	154
SVE 06 (D)	20	345
SVE PT 02 (m)	22	190

12 Location JRW 10 Date 6-20-22

Project / Client

HR METER: 314.0 (hrs) 1025 started on shallow
EFFLUENT PID: 130 (PPM)
FLOW: ~ 92 (cfm)
VAC: ~ 39 (in H_2O)
INFLUENT PID: 125 (PPM)

[SHALLOW WELLS ON]	VAC (in H_2O)	PID (PPM)
SVE 02 (S)	32	374
SVE 03 (S)	34	76
SVE 01 (S)	34	560
SVE 04 (S)	36	101

HR METER: 314.3 (hrs) 1038 MEDIUMS ONLY
EFFLUENT PID: 840 (PPM)
FLOW: ~ 106 (cfm)
VAC: ~ 34.7 (in H_2O)
INFLUENT PID: 1179 (PPM)

[MEDIUM WELLS ON]	VAC (in H_2O)	PID (PPM)
SVE PT 04 (M)	30	480
SVE PT 03 (M)	30	605
SVE PT 02 (M)	30	265

Location JRU 10 Date 6-20-22

Project / Client

1105 DEEP WELLS ON

HR METER: 314.7 (hrs)
EFFLUENT PID: 1,335 (ppm)
FLOW: ~ 73 (cfm)
VAC: ~ 61 (in H_2O)
INFLUENT PID: 1170 (ppm)

[DEEP WELLS ON]	VAC (in H_2O)	PID (ppm)	
SVE PT 01 (D)	64	1356	
SVE 05 (D)	62	1588	
SVE 06 (D)	70	610	~~CLOUD COVER~~

11:80 "INFLUENT ALL WELLS" AIR SAMPLE COLLECTED
2 TEDLAR - 1 LITER BAGS
PID: 1013 (ppm)
FLOW: ~ 69 (cfm)
VAC: ~ 12 (in H_2O)

NOTE: CLOUD COVER WHEN COLLECTED

11:05 - ALL WELLS RUNNING (NO LEAKS)

Location JAL 10 Date 7.18.22

Project / Client SVE

0800	HR METER	676.3	[hrs]	WORKING ✓
	EFFLUENT	260.5	[PPM]	PULLING VAPORS ✓
	FLOW	84.6	[CFM]	
	VAC	15.8	[in H_2O]	
	INFLUENT	535	[PPM]	

[ALL WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE 02	10	345.0
SVE PT 04	15	1305.0
SVE PT 01	15	1400.0
SVE 03	15	614.0
SVE 05	15	170.0
SVE PT 03	14	565.0
SVE 01	14	615.0
SVE 04	14	235.0
SVE 06	15	272.0
SVE PT 02	16	177.0

0820 SWITCHED TO SHALLOW WELLS "ON"

Location JRU 10 Date 7.18.22

Project / Client SVE

HR METER	676.8 ~~676.3~~	[hrs]
EFFLUENT	23.0 ~~84.6~~ ~~260.5~~	[PPM]
FLOW	70.0 ~~84.6~~	[cfm]
VAC	27.0 ~~15.0~~	[in H_2O]
INFLUENT	126.0 ~~535~~	[PPM]

[SHALLOW WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE 02	22	333.0
SVE 03	28	110.0
SVE 01	26	577.0
SVE 04	27	118.0

0835 SWITCHED TO MEDIUM WELLS "ON"

HR METER	677.0	[hrs]
EFFLUENT	612.0	[PPM]
FLOW	85.0	[CFM]
VAC	23.3	[in H_2O]
INFLUENT	1137	[PPM]

[MEDIUM WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE PT 04	24	1139
SVE PT 03	23	395
SVE PT 02	24	322

Location JRU 10 Date 7.18.22

Project / Client

0845 SWITCHED TO DEEP WELLS "ON"

HR METER	677.2 ~~677.0~~	CM	[hrs]
EFFLUENT	636.0 ~~612.0~~	CM	[PPM]
FLOW	65.2 ~~85.0~~	CM	[CFM]
VAC	45.8 ~~25.3~~	CM	[in H_2O]
INFLUENT	995.0 ~~636~~	CM	[PPM]

[DEEP WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE PT 01	48	1328.0
SVE 05	46	150.0
SVE 06	47	360.0

0900 "INFLUENT ALL WELLS" AIR SAMPLE COLLECTED

2- TEDLAR 1- LITER BAGS

PID 820.0 [PPM]

FLOW 103.0 [CFM]

VAC 19.8 [in H_2O]

0910 WALK THROUGH OF ALL WELLS

- NO LIQUID IN KNOCK OUT TANK
- SOLAR PANELS GOOD

Location JAL 10 Date 8.15.22 17

Project / Client XTO/SVE SAMPLING

0730 TRAVEL TO SITE @ 0800 ENSOLUM ON-SITE

HR METER: 1030.3 [hrs]

EFFLUENT PID: 280.9 [PPM]

FLOW : 98.1 [CFM]

VAC : 20.8 [in H_2O]

INFLUENT PID: 486.9 [PPM]

WORKING ✓

PULLING VAPORS ✓

[ALL WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE 02	14	357.7
SVE PT 04	20	1449
SVE PT 01	20	1850
SVE 03	20	420.2
SVE 05	19	184.1
SVE PT 03	18	368.2
SVE 01	18	423.1
SVE 04	18	204.3
SVE 06	18	245.4
SVE PT 02	20	230.3

09:00 SWITCHED TO SHALLOW WELLS ON

18

Location JRU 10 Date 8.15.22

Project / Client XTO/SVE SAMPLING

HR METER: 1030.9 [hrs]

EFFLUENT PID: ~~85.0~~ 26.8 [PPM]

FLOW : 85.0 [CFM]

VAC : 36.5 [in H_2O]

INFLUENT PID: 134.5 [PPM]

[SHALLOW WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE 02	32	380.2
SVE 03	35	103.9
SVE 01	34	462.5
SVE 04	34	114.6

09:17 SWITCHED TO MEDIUM WELLS ON

HR METER: 1031.1 [hrs]

EFFLUENT PID: 474.6 [PPM]

FLOW : 100.8 [CFM]

VAC : 30.8 [in H_2O]

INFLUENT PID: 1065 [PPM]

[MEDIUM WELLS ON]	VAC [in H_2O]	PID [PPM]
SVE PT04	28	1065 CR 1369
SVE PT03	28	556.7
SVE PT02	29	401.3

Location JRU 10 Date 8.15.22

Project / Client XTO / SVE SAMPLING

09:30 SWITCHED TO DEEP WELLS ON

HR METER: 1031.3 ~~1320.3~~ on [hrs]

EFFLUENT PID: 568.1 ~~830.9~~ on [ppm]

FLOW: 70.2 ~~78.1~~ on [cfm]

VAC: 58.0 ~~20.0~~ on [in H_2O]

INFLUENT PID: 1125 [ppm]

[DEEP WELLS ON]	VAC [in H_2O]	PID [ppm]
SVE PT01	60	on ~~1125~~ 1760
SVE 05	58	201.8
SVE 06	58	439.0

0940 SWITCHED TO ALL WELLS ON

0950 "INFLUENT ALL WELLS" AIR SAMPLE COLLECTED

2 TEDLAR - 1 LITER BAGS

PID: 956.4 [ppm]

FLOW: 116.8 [cfm]

VAC: 25.0 [in H_2O]

0955 ALL WELLS RUNNING

- NO LIQUID IN KNOCK OUT TANK, BALL VALVE WAS OPEN, SO I SHUT IT
- SOLAR PANELS GOOD

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APPENDIX B

Laboratory Analytical Reports & Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2356-1
Laboratory Sample Delivery Group: 03E1558041
Client Project/Site: JRU 10

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
6/2/2022 10:58:11 AM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: JRU 10

Laboratory Job ID: 890-2356-1
SDG: 03E1558041

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Job ID: 890-2356-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2356-1

Receipt
The sample was received on 5/27/2022 4:40 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 24.4°C

GC/MS VOA
Method 8260C_GRO: The following sample was analyzed outside of analytical holding time due to receiving sample out of hold time.Influent All Wells (890-2356-1).

Method 8260C_MOD: The following sample was analyzed outside of analytical holding time due to sample was received outside analytical holding time.Influent All Wells (890-2356-1).

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: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Lab Sample ID: 890-2356-1

Date Collected: 05/27/22 16:40
Matrix: Air
Date Received: 05/27/22 16:40
Sample Container: Air Sample Bag - 1 L

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	3050	H	61.1		ppm v/v			06/01/22 16:12	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*60 - 140*		*06/01/22 15:50*	*1*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*06/01/22 16:12*	*5*
4-Bromofluorobenzene (Surr)	*97*		*60 - 140*		*06/01/22 16:48*	*5*

Method: 8260C - Volatile Organic Compounds (GCMS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.95	H	3.13		ppm v/v			06/01/22 15:50	1
Toluene	10.7	H	2.65		ppm v/v			06/01/22 15:50	1
Ethylbenzene	<2.30	U H	2.30		ppm v/v			06/01/22 15:50	1
m,p-Xylenes	7.98	H	4.61		ppm v/v			06/01/22 15:50	1
o-Xylene	<2.30	U H	2.30		ppm v/v			06/01/22 15:50	1
Xylenes, Total	7.98	H	4.61		ppm v/v			06/01/22 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 135*		*06/01/22 15:50*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 135*		*06/01/22 16:12*	*5*
4-Bromofluorobenzene (Surr)	*104*		*70 - 135*		*06/01/22 16:48*	*5*

Surrogate Summary

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

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)							
890-2356-1	Influent All Wells	104							
890-2356-1	Influent All Wells	107							
890-2356-1	Influent All Wells	104							
LCS 860-55195/3	Lab Control Sample	102							
LCSD 860-55195/4	Lab Control Sample Dup	104							
MB 860-55195/6	Method Blank	103							

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)							
890-2356-1	Influent All Wells	97							
890-2356-1	Influent All Wells	105							
890-2356-1	Influent All Wells	101							
LCS 860-55118/4	Lab Control Sample	99							
LCSD 860-55118/5	Lab Control Sample Dup	101							
MB 860-55118/7	Method Blank	104							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Method: 8260C - Volatile Organic Compounds (GCMS)

Lab Sample ID: MB 860-55195/6
Matrix: Air
Analysis Batch: 55195

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<3.13	U	3.13		ppm v/v			06/01/22 15:14	1
Toluene	<2.65	U	2.65		ppm v/v			06/01/22 15:14	1
Ethylbenzene	<2.30	U	2.30		ppm v/v			06/01/22 15:14	1
m,p-Xylenes	<4.61	U	4.61		ppm v/v			06/01/22 15:14	1
o-Xylene	<2.30	U	2.30		ppm v/v			06/01/22 15:14	1
Xylenes, Total	<4.61	U	4.61		ppm v/v			06/01/22 15:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 135*		*06/01/22 15:14*	*1*

Lab Sample ID: LCS 860-55195/3
Matrix: Air
Analysis Batch: 55195

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			15.7	15.52		ppm v/v		99	70 - 125		
Toluene			13.3	13.98		ppm v/v		105	70 - 125		
Ethylbenzene			11.5	11.70		ppm v/v		102	70 - 125		
m,p-Xylenes			11.5	11.94		ppm v/v		104	70 - 125		
o-Xylene			11.5	11.94		ppm v/v		104	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*

Lab Sample ID: LCSD 860-55195/4
Matrix: Air
Analysis Batch: 55195

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			15.7	15.22		ppm v/v		97	70 - 125	2	35
Toluene			13.3	13.49		ppm v/v		102	70 - 125	4	35
Ethylbenzene			11.5	11.83		ppm v/v		103	70 - 125	1	35
m,p-Xylenes			11.5	12.14		ppm v/v		105	70 - 125	2	35
o-Xylene			11.5	11.76		ppm v/v		102	70 - 125	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*70 - 135*

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

Lab Sample ID: MB 860-55118/7
Matrix: Air
Analysis Batch: 55118

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<12.2	U	12.2		ppm v/v			06/01/22 15:14	1

QC Sample Results

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

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

Lab Sample ID: MB 860-55118/7
Matrix: Air
Analysis Batch: 55118

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		60 - 140		06/01/22 15:14	1

Lab Sample ID: LCS 860-55118/4
Matrix: Air
Analysis Batch: 55118

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			122	128.4		ppm v/v		105	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		60 - 140

Lab Sample ID: LCSD 860-55118/5
Matrix: Air
Analysis Batch: 55118

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			122	118.9		ppm v/v		97	60 - 140	8	35

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

QC Association Summary

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

GC/MS VOA

Analysis Batch: 55118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2356-1	Influent All Wells	Total/NA	Air	8260C GRO	
890-2356-1	Influent All Wells	Total/NA	Air	8260C GRO	
890-2356-1	Influent All Wells	Total/NA	Air	8260C GRO	
MB 860-55118/7	Method Blank	Total/NA	Air	8260C GRO	
LCS 860-55118/4	Lab Control Sample	Total/NA	Air	8260C GRO	
LCSD 860-55118/5	Lab Control Sample Dup	Total/NA	Air	8260C GRO	

Analysis Batch: 55195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2356-1	Influent All Wells	Total/NA	Air	8260C	
890-2356-1	Influent All Wells	Total/NA	Air	8260C	
890-2356-1	Influent All Wells	Total/NA	Air	8260C	
MB 860-55195/6	Method Blank	Total/NA	Air	8260C	
LCS 860-55195/3	Lab Control Sample	Total/NA	Air	8260C	
LCSD 860-55195/4	Lab Control Sample Dup	Total/NA	Air	8260C	

Lab Chronicle

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Date Collected: 05/27/22 16:40
Date Received: 05/27/22 16:40

Lab Sample ID: 890-2356-1

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	55195	06/01/22 15:50	JBS	XEN STF
Total/NA	Analysis	8260C		5	5 mL	5 mL	55195	06/01/22 16:12	JBS	XEN STF
Total/NA	Analysis	8260C		5	5 mL	5 mL	55195	06/01/22 16:48	JBS	XEN STF
Total/NA	Analysis	8260C GRO		1	5 mL	5 mL	55118	06/01/22 15:50	JBS	XEN STF
Total/NA	Analysis	8260C GRO		5	5 mL	5 mL	55118	06/01/22 16:12	JBS	XEN STF
Total/NA	Analysis	8260C GRO		5	5 mL	5 mL	55118	06/01/22 16:48	JBS	XEN STF

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

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	T104704215-21-44	06-30-22

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: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

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

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: JRU 10

Job ID: 890-2356-1
SDG: 03E1558041

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2356-1	Influent All Wells	Air	05/27/22 16:40	05/27/22 16:40

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Adrian Baker
Company Name:	Ensolum LLC	Company Name:	XTO Energy, Inc.
Address:		Address:	3104 E. Green Street
City, State ZIP:		City, State ZIP:	Carlsbad, NM 88220
Phone:	337.257.8307	Email:	tmorrissey@ensolum.com

Work Order Comments

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

Project Name:	JRU 10	Turn Around	
Project Number:	03E1558041	☑ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:	Conner Shore	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Samples Received Intact:	Yes No	Thermometer ID:	TNM08	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Temperature Reading:	24.6	
Total Containers:		Corrected Temperature:	24.4	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	TVPH (8015)		BTEX (8021		Parameters	Sample Comments
Influent All Wells	A	05.27.22	1500	n/a	g	2		x		x			Incident ID:
													Cost Center:
													AFE:

890-2356 Chain of Custody

Preservative Codes

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	2	5.27.22 1640	3	4	
5	6				

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2356-1
SDG Number: 03E1558041

Login Number: 2356
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-2356-1
SDG Number: 03E1558041

Login Number: 2356
List Number: 2
Creator: Milone, Jeancarlo

List Source: Eurofins Houston
List Creation: 06/01/22 11:09 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2394-1
Laboratory Sample Delivery Group: Rural Eddy NM
Client Project/Site: James Ranch Unit #10

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
6/13/2022 10:30:13 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 890-2394-1
SDG: Rural Eddy NM

Table of Contents

Definitions/Glossary

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

Job ID: 890-2394-1
SDG: Rural Eddy NM

Glossary

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

Case Narrative

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

Job ID: 890-2394-1
SDG: Rural Eddy NM

Job ID: 890-2394-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2394-1

Receipt
The sample was received on 6/8/2022 1:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 26.2°C

SUBCONTRACTING

The following analyses were subcontracted to Eurofins Air Toxics, Inc.:
ASTM D 1946
TO-15

Subcontract Lab non-Sister Lab
See attached subcontract report.

Method Summary

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

Job ID: 890-2394-1
SDG: Rural Eddy NM

Method	Method Description	Protocol	Laboratory
Subcontract	ASTM D 1946	None	Eurofins A
Subcontract	TO-15	None	Eurofins A

Protocol References:

None = None

Laboratory References:

Eurofins A = Eurofins Air Toxics, 180 Blue Ravine Road, Suite B, Folsom, CA 95630

Sample Summary

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

Job ID: 890-2394-1
SDG: Rural Eddy NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2394-1	Influent all wells	Air	06/08/22 10:25	06/08/22 13:00

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6/13/2022
Ms. Jessica Kramer
Eurofins Xenco, LLC
1211 W Florida Ave

Midland TX 79701

Project Name: 1135831001
Project #: 89000093
Workorder #: 2206221A

Dear Ms. Jessica Kramer

The following report includes the data for the above referenced project for sample(s) received on 6/10/2022 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Brian Whittaker

Project Manager

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WORK ORDER #: 2206221A

Work Order Summary

CLIENT:	Ms. Jessica Kramer Eurofins Xenco, LLC 1211 W Florida Ave Midland, TX 79701	**BILL TO:**	Accounts Payable Eurofins Xenco, LLC 1211 W Florida Ave Midland, TX 79701
PHONE:	432-704-5440	**P.O. #**	
FAX:		**PROJECT #**	89000093 1135831001
DATE RECEIVED:	06/10/2022	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	06/13/2022		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	Influent all wells (890-2394-1)	Modified TO-15 (5&20 ppbv	Tedlar Bag	Tedlar Bag
02A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
03A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
04A	LCS	Modified TO-15 (5&20 ppbv	NA	NA
04AA	LCSD	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Heidi Rayes DATE: 06/13/22

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.
Eurofins Air Toxics, LLC certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

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LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
Eurofins Xenco, LLC
Workorder# 2206221A

One 1 Liter Tedlar Bag sample was received on June 10, 2022. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A date with time was not provided by the field sampler.

Analytical Notes

Method TO-15 is validated for samples collected in specially treated canisters. As such, the use of Tedlar bags for sample collection is outside the scope of the method and not recommended for ambient or indoor air samples. It is the responsibility of the data user to determine the usability of TO-15 results generated from Tedlar bags.

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Dilution was performed on sample Influent all wells (890-2394-1) due to the presence of high level target species.

The recovery of surrogate Toluene-d8 in sample Influent all wells (890-2394-1) was outside laboratory control limits due to high level hydrocarbon matrix interference. The surrogate recovery is flagged.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

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b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS

Client Sample ID: Influent all wells (890-2394-1)

Lab ID#: 2206221A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	250	100000	880	360000
Cyclohexane	250	120000	860	420000
Benzene	250	6700	800	21000
Heptane	250	240000	1000	970000
Toluene	250	56000	940	210000
Ethyl Benzene	250	2300	1100	9900
m,p-Xylene	250	83000	1100	360000
o-Xylene	250	17000	1100	74000
Cumene	250	300	1200	1500
Propylbenzene	250	5900	1200	29000
1,3,5-Trimethylbenzene	250	9200	1200	45000
1,2,4-Trimethylbenzene	250	3400	1200	16000
TPH ref. to Gasoline (MW=100)	25000	8600000	100000	35000000

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Client Sample ID: Influent all wells (890-2394-1)

Lab ID#: 2206221A-01A

EPA METHOD TO-15 GC/MS

File Name:	**14060964**	**Date of Collection:**	**6/8/22 10:25:00**
Dil. Factor:	**50.0**	**Date of Analysis:**	**6/10/22 07:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	250	Not Detected	1200	Not Detected
Freon 114	250	Not Detected	1700	Not Detected
Chloromethane	1000	Not Detected	2100	Not Detected
Vinyl Chloride	250	Not Detected	640	Not Detected
1,3-Butadiene	250	Not Detected	550	Not Detected
Bromomethane	1000	Not Detected	3900	Not Detected
Chloroethane	1000	Not Detected	2600	Not Detected
Freon 11	250	Not Detected	1400	Not Detected
Ethanol	1200	Not Detected	2400	Not Detected
Freon 113	250	Not Detected	1900	Not Detected
1,1-Dichloroethene	250	Not Detected	990	Not Detected
Acetone	1000	Not Detected	2400	Not Detected
2-Propanol	1200	Not Detected	3100	Not Detected
Carbon Disulfide	1000	Not Detected	3100	Not Detected
3-Chloropropene	1000	Not Detected	3100	Not Detected
Methylene Chloride	1000	Not Detected	3500	Not Detected
Methyl tert-butyl ether	250	Not Detected	900	Not Detected
trans-1,2-Dichloroethene	250	Not Detected	990	Not Detected
Hexane	250	100000	880	360000
1,1-Dichloroethane	250	Not Detected	1000	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1000	Not Detected	2900	Not Detected
cis-1,2-Dichloroethene	250	Not Detected	990	Not Detected
Tetrahydrofuran	250	Not Detected	740	Not Detected
Chloroform	250	Not Detected	1200	Not Detected
1,1,1-Trichloroethane	250	Not Detected	1400	Not Detected
Cyclohexane	250	120000	860	420000
Carbon Tetrachloride	250	Not Detected	1600	Not Detected
2,2,4-Trimethylpentane	250	Not Detected	1200	Not Detected
Benzene	250	6700	800	21000
1,2-Dichloroethane	250	Not Detected	1000	Not Detected
Heptane	250	240000	1000	970000
Trichloroethene	250	Not Detected	1300	Not Detected
1,2-Dichloropropane	250	Not Detected	1200	Not Detected
1,4-Dioxane	1000	Not Detected	3600	Not Detected
Bromodichloromethane	250	Not Detected	1700	Not Detected
cis-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
4-Methyl-2-pentanone	1000	Not Detected	4100	Not Detected
Toluene	250	56000	940	210000
trans-1,3-Dichloropropene	250	Not Detected	1100	Not Detected
1,1,2-Trichloroethane	250	Not Detected	1400	Not Detected
Tetrachloroethene	250	Not Detected	1700	Not Detected
2-Hexanone	1000	Not Detected	4100	Not Detected

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Client Sample ID: Influent all wells (890-2394-1)

Lab ID#: 2206221A-01A

EPA METHOD TO-15 GC/MS

File Name:	**14060964**	**Date of Collection:**	**6/8/22 10:25:00**
Dil. Factor:	**50.0**	**Date of Analysis:**	**6/10/22 07:36 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	250	Not Detected	2100	Not Detected
1,2-Dibromoethane (EDB)	250	Not Detected	1900	Not Detected
Chlorobenzene	250	Not Detected	1200	Not Detected
Ethyl Benzene	250	2300	1100	9900
m,p-Xylene	250	83000	1100	360000
o-Xylene	250	17000	1100	74000
Styrene	250	Not Detected	1100	Not Detected
Bromoform	250	Not Detected	2600	Not Detected
Cumene	250	300	1200	1500
1,1,2,2-Tetrachloroethane	250	Not Detected	1700	Not Detected
Propylbenzene	250	5900	1200	29000
4-Ethyltoluene	250	Not Detected	1200	Not Detected
1,3,5-Trimethylbenzene	250	9200	1200	45000
1,2,4-Trimethylbenzene	250	3400	1200	16000
1,3-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,4-Dichlorobenzene	250	Not Detected	1500	Not Detected
alpha-Chlorotoluene	250	Not Detected	1300	Not Detected
1,2-Dichlorobenzene	250	Not Detected	1500	Not Detected
1,2,4-Trichlorobenzene	1000	Not Detected	7400	Not Detected
Hexachlorobutadiene	1000	Not Detected	11000	Not Detected
TPH ref. to Gasoline (MW=100)	25000	8600000	100000	35000000

Q = Exceeds Quality Control limits.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	173 Q	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2206221A-02A

EPA METHOD TO-15 GC/MS

File Name:	**14060937c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 10:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	20	Not Detected	78	Not Detected
Chloroethane	20	Not Detected	53	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	25	Not Detected	47	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	25	Not Detected	61	Not Detected
Carbon Disulfide	20	Not Detected	62	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	20	Not Detected	69	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	20	Not Detected	59	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	20	Not Detected	82	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected

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Client Sample ID: Lab Blank

Lab ID#: 2206221A-02A

EPA METHOD TO-15 GC/MS

File Name:	**14060937c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 10:48 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected
TPH ref. to Gasoline (MW=100)	500	Not Detected	2000	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: CCV
Lab ID#: 2206221A-03A
EPA METHOD TO-15 GC/MS

File Name:	**14060933**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 09:23 PM**	

Compound	%Recovery
Freon 12	99
Freon 114	114
Chloromethane	91
Vinyl Chloride	91
1,3-Butadiene	83
Bromomethane	87
Chloroethane	84
Freon 11	92
Ethanol	106
Freon 113	108
1,1-Dichloroethene	98
Acetone	107
2-Propanol	99
Carbon Disulfide	98
3-Chloropropene	98
Methylene Chloride	100
Methyl tert-butyl ether	78
trans-1,2-Dichloroethene	101
Hexane	96
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	96
Tetrahydrofuran	94
Chloroform	93
1,1,1-Trichloroethane	93
Cyclohexane	94
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	98
Benzene	99
1,2-Dichloroethane	92
Heptane	97
Trichloroethene	99
1,2-Dichloropropane	98
1,4-Dioxane	97
Bromodichloromethane	94
cis-1,3-Dichloropropene	93
4-Methyl-2-pentanone	100
Toluene	95
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	101
Tetrachloroethene	109
2-Hexanone	103

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Client Sample ID: CCV
Lab ID#: 2206221A-03A
EPA METHOD TO-15 GC/MS

File Name:	**14060933**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 09:23 PM**	

Compound	%Recovery
Dibromochloromethane	107
1,2-Dibromoethane (EDB)	104
Chlorobenzene	99
Ethyl Benzene	96
m,p-Xylene	97
o-Xylene	96
Styrene	108
Bromoform	102
Cumene	100
1,1,2,2-Tetrachloroethane	95
Propylbenzene	106
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	81
TPH ref. to Gasoline (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	59-144
Toluene-d8	95	85-115
4-Bromofluorobenzene	99	75-115

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Client Sample ID: LCS
Lab ID#: 2206221A-04A
EPA METHOD TO-15 GC/MS

File Name:	**14060934**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 09:44 PM**	

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	108	70-130
Chloromethane	85	70-130
Vinyl Chloride	89	70-130
1,3-Butadiene	81	70-130
Bromomethane	85	70-130
Chloroethane	83	70-130
Freon 11	88	70-130
Ethanol	97	70-130
Freon 113	100	70-130
1,1-Dichloroethene	91	70-130
Acetone	104	70-130
2-Propanol	102	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	95	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	98	70-130
Hexane	91	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	95	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	89	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	91	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	92	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	96	70-130
1,2-Dichloroethane	90	70-130
Heptane	96	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	90	70-130
cis-1,3-Dichloropropene	92	70-130
4-Methyl-2-pentanone	98	70-130
Toluene	90	70-130
trans-1,3-Dichloropropene	104	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	107	70-130
2-Hexanone	98	70-130

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Client Sample ID: LCS
Lab ID#: 2206221A-04A
EPA METHOD TO-15 GC/MS

File Name:	**14060934**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 09:44 PM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	94	70-130
o-Xylene	93	70-130
Styrene	106	70-130
Bromoform	102	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	103	70-130
4-Ethyltoluene	98	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	90	70-130
Hexachlorobutadiene	87	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	87	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD
Lab ID#: 2206221A-04AA
EPA METHOD TO-15 GC/MS

File Name:	**14060935**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 10:06 PM**	

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	109	70-130
Chloromethane	92	70-130
Vinyl Chloride	90	70-130
1,3-Butadiene	82	70-130
Bromomethane	78	70-130
Chloroethane	82	70-130
Freon 11	91	70-130
Ethanol	107	70-130
Freon 113	104	70-130
1,1-Dichloroethene	95	70-130
Acetone	104	70-130
2-Propanol	103	70-130
Carbon Disulfide	95	70-130
3-Chloropropene	94	70-130
Methylene Chloride	95	70-130
Methyl tert-butyl ether	77	70-130
trans-1,2-Dichloroethene	96	70-130
Hexane	95	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	95	70-130
Chloroform	91	70-130
1,1,1-Trichloroethane	92	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	95	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	95	70-130
1,2-Dichloroethane	90	70-130
Heptane	93	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	88	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	88	70-130
trans-1,3-Dichloropropene	98	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	105	70-130
2-Hexanone	101	70-130

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Client Sample ID: LCSD
Lab ID#: 2206221A-04AA
EPA METHOD TO-15 GC/MS

File Name:	**14060935**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/22 10:06 PM**	

Compound	%Recovery	Method Limits
Dibromochloromethane	103	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	95	70-130
o-Xylene	92	70-130
Styrene	106	70-130
Bromoform	100	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	98	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	87	70-130
Hexachlorobutadiene	84	70-130
TPH ref. to Gasoline (MW=100)	Not Spiked	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130

XENCO LABORATORIES

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #:

Stafford,Texas (281-240-4200) San Antonio, Texas (210-509-3334) Phoenix, 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)

6/13/2022

Page 1 of 1

Client/Project Information

Company Name: Ensolum
Project Contact: Tacoma Morrissey
Email: tmorrissey@ensolum.com Ph.No.: 337-257-8307
Project Name & No.: James Ranch Unit #10, 03E1558041
Site Location: Rural Eddy, NM
Cost Center: 113583 1001
Sampler(s): Gilbert Moreno, Connor Shore

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

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	Full VOC list (TO-15)	TPH/GRO (TO-15)	Fixed Gas (ASTM D 1946)			Remarks
	Influent All Wells	6/8/2022	10:25			SV						X	X	X			AFE # EW.2211.03368.EXP.01

6.8.22

890-2394 Chain of Custody

(1) Relinquished By:	Date/Time	(1) Received By: 6-8-22 1300
(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 24 HR

Shipping Information

☐ FedEx ☐ Other:
☐ UPS Tracking No.:
☐ LSO

Special Requests/Instructions: Collected 2-1 Liter Tedlar bags.
Adrian Baker, XTO Energy, Inc., Address: 3104 E. Green St. Carlsbad, NM

Bill to:

T-NM-007 -0.2 26.4/26.2

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-785.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Air Toxics, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 890-2394-1
Address: 180 Blue Ravine Road, Suite B,	Due Date Requested: 6/9/2022 CLIENT NEED RUSH - ASAP			
City: Folsom	TAT Requested (days):			
State, Zip: CA, 95630				
Phone:	PO #:			
Email:	WO #:			
Project Name: James Ranch Unit #10	Project #: 89000093			
Site: Rural Eddy NM	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	ASTM D 1946 CO2 & O2	VOC/TPH/GRO TO-15											Total Number of containers	Special Instructions/Note:
			Preservation Code:																	
Influent all wells (890-2394-1)	6/8/22	10:25 Mountain		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 out 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 complicance to Eurofins Environment Testing South Central, LLC.

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

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

Relinquished by: J Kramer - revised COC	Date/Time: 06/08/2022 1500	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2394-1
SDG Number: Rural Eddy NM

Login Number: 2394
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

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

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2436-1
Laboratory Sample Delivery Group: 03E1558041
Client Project/Site: James Ranch Unit #10

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
6/22/2022 4:27:49 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 890-2436-1
SDG: 03E1558041

Table of Contents

Definitions/Glossary

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

Job ID: 890-2436-1
SDG: 03E1558041

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
Project/Site: James Ranch Unit #10

Job ID: 890-2436-1
SDG: 03E1558041

Job ID: 890-2436-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2436-1

Receipt
The sample was received on 6/20/2022 1:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 23.4°C

GC/MS VOA
Method 8260C_GRO: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2436-1). Elevated reporting limits (RLs) are provided.

Method 8260C_MOD: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2436-1). Elevated reporting limits (RLs) are provided.

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: 890-2436-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Lab Sample ID: 890-2436-1

Date Collected: 06/20/22 11:00
Matrix: Air
Date Received: 06/20/22 13:09
Sample Container: Other Client Container - unpreserved

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	4930		122		ppm v/v			06/22/22 16:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*		*06/22/22 16:27*	*10*

Method: 8260C - Volatile Organic Compounds (GCMS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.65		3.13		ppm v/v			06/22/22 13:56	1
Ethylbenzene	<2.30	U	2.30		ppm v/v			06/22/22 13:56	1
o-Xylene	10.6		2.30		ppm v/v			06/22/22 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 135*		*06/22/22 13:56*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	52.8		26.5		ppm v/v			06/22/22 16:27	10
m,p-Xylenes	51.8		46.1		ppm v/v			06/22/22 16:27	10
Xylenes, Total	51.8		46.1		ppm v/v			06/22/22 16:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*		*06/22/22 16:27*	*10*

Surrogate Summary

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

Job ID: 890-2436-1
SDG: 03E1558041

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)							
890-2436-1 - DL	Influent All Wells	98							
890-2436-1	Influent All Wells	123							
LCS 860-57971/3	Lab Control Sample	102							
LCSD 860-57971/4	Lab Control Sample Dup	103							
MB 860-57971/6	Method Blank	96							

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)							
890-2436-1	Influent All Wells	106							
LCS 860-57972/4	Lab Control Sample	102							
LCSD 860-57972/5	Lab Control Sample Dup	107							
MB 860-57972/7	Method Blank	107							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

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

Job ID: 890-2436-1
SDG: 03E1558041

Method: 8260C - Volatile Organic Compounds (GCMS)

Lab Sample ID: MB 860-57971/6
Matrix: Air
Analysis Batch: 57971

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<3.13	U	3.13		ppm v/v			06/22/22 13:15	1
Toluene	<2.65	U	2.65		ppm v/v			06/22/22 13:15	1
Ethylbenzene	<2.30	U	2.30		ppm v/v			06/22/22 13:15	1
m,p-Xylenes	<4.61	U	4.61		ppm v/v			06/22/22 13:15	1
o-Xylene	<2.30	U	2.30		ppm v/v			06/22/22 13:15	1
Xylenes, Total	<4.61	U	4.61		ppm v/v			06/22/22 13:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 135*		*06/22/22 13:15*	*1*

Lab Sample ID: LCS 860-57971/3
Matrix: Air
Analysis Batch: 57971

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			15.7	16.44		ppm v/v		105	70 - 125		
Toluene			13.3	13.85		ppm v/v		104	70 - 125		
Ethylbenzene			11.5	11.73		ppm v/v		102	70 - 125		
m,p-Xylenes			11.5	11.82		ppm v/v		103	70 - 125		
o-Xylene			11.5	11.75		ppm v/v		102	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*

Lab Sample ID: LCSD 860-57971/4
Matrix: Air
Analysis Batch: 57971

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			15.7	16.86		ppm v/v		108	70 - 125	3	35
Toluene			13.3	14.36		ppm v/v		108	70 - 125	4	35
Ethylbenzene			11.5	12.23		ppm v/v		106	70 - 125	4	35
m,p-Xylenes			11.5	12.29		ppm v/v		107	70 - 125	4	35
o-Xylene			11.5	12.34		ppm v/v		107	70 - 125	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*70 - 135*

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

Lab Sample ID: MB 860-57972/7
Matrix: Air
Analysis Batch: 57972

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<12.2	U	12.2		ppm v/v			06/22/22 13:15	1

QC Sample Results

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

Job ID: 890-2436-1
SDG: 03E1558041

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

Lab Sample ID: MB 860-57972/7
Matrix: Air
Analysis Batch: 57972

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		60 - 140		06/22/22 13:15	1

Lab Sample ID: LCS 860-57972/4
Matrix: Air
Analysis Batch: 57972

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			122	107.2		ppm v/v		88	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		60 - 140

Lab Sample ID: LCSD 860-57972/5
Matrix: Air
Analysis Batch: 57972

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			122	111.2		ppm v/v		91	60 - 140	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		60 - 140

QC Association Summary

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

Job ID: 890-2436-1
SDG: 03E1558041

GC/MS VOA

Analysis Batch: 57971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2436-1	Influent All Wells	Total/NA	Air	8260C	
890-2436-1 - DL	Influent All Wells	Total/NA	Air	8260C	
MB 860-57971/6	Method Blank	Total/NA	Air	8260C	
LCS 860-57971/3	Lab Control Sample	Total/NA	Air	8260C	
LCSD 860-57971/4	Lab Control Sample Dup	Total/NA	Air	8260C	

Analysis Batch: 57972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2436-1	Influent All Wells	Total/NA	Air	8260C GRO	
MB 860-57972/7	Method Blank	Total/NA	Air	8260C GRO	
LCS 860-57972/4	Lab Control Sample	Total/NA	Air	8260C GRO	
LCSD 860-57972/5	Lab Control Sample Dup	Total/NA	Air	8260C GRO	

Lab Chronicle

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

Job ID: 890-2436-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Date Collected: 06/20/22 11:00
Date Received: 06/20/22 13:09

Lab Sample ID: 890-2436-1

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	57971	06/22/22 13:56	JBS	XEN STF
Total/NA	Analysis	8260C	DL	10	5 mL	5 mL	57971	06/22/22 16:27	JBS	XEN STF
Total/NA	Analysis	8260C GRO		10	5 mL	5 mL	57972	06/22/22 16:27	JBS	XEN STF

Laboratory References:

XEN STF = 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: 890-2436-1
SDG: 03E1558041

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	T104704215-21-44	06-30-22

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: 890-2436-1
SDG: 03E1558041

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

Protocol References:

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

Laboratory References:

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

Sample Summary

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

Job ID: 890-2436-1
SDG: 03E1558041

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2436-1	Influent All Wells	Air	06/20/22 11:00	06/20/22 13:09

XENCO LABORATORIES

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #:

6/22/2022

Stafford,Texas (281-240-4200) San Antonio, Texas (210-509-3334) Phoenix, 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 1 of 1

Client/Project Information

Company Name: Ensolum
Project Contact: Tacoma Morrissey
Email: tmorrissey@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): Gilbert Moreno, Connor Shore

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

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	Analysis Requested: TVPH(8015)	Analysis Requested: BTEX(8021)	Remarks
	Influent All Wells	6.20.2022	11:00			SV						X	X	

890-2436 Chain of Custody

(1) Relinquished By:	Date/Time	(1) Received By: 1309	Requested TAT: Contract TAT / 7 Day / 5 Day; 3 Day / 2 Day / 1 Day; Same Day; Need By: 24 HR TAT
(2) Relinquished By:	Date/Time	(2) Received By: 6.20.22	Shipping Information: FedEx / UPS / LSO; Other: / Tracking No.:
(3) Relinquished By:	Date/Time	(3) Received By:	
(4) Relinquished By:	Date/Time	(4) Received By:	

Special Requests/Instructions: Collected 2-1 Liter Tedlar bags.
Bill to: Adrian Baker, XTO Energy, Inc., Address: 3104 E. Green St. Carlsbad, NM

23.6/23.4 T-NM.007-0.2

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

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-801 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Air Toxics, Inc.		Accreditations Required (See note): NELAP Texas		Job #: 890-2436-1
Address: 180 Blue Ravine Road, Suite B,	Due Date Requested: 6/21/2022			
City: Folsom	TAT Requested (days):			
State, Zip: CA, 95630				
Phone:	PO #:			
Email:	WO #:			
Project Name: 1135831001 afe.ew.2019.03368.exp.01	Project #: 89000093			
Site:	SSOW#:			

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

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)	SUB (ASTM D 1946)/ ASTM D 1946	SUB (TO-15)/ TO-15	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Influent All Wells (890-2436-1)	6/20/22	11:00 Mountain		Air			X	X	2	See Attached Instructions

Custody Seal Intact?
Y N None Temp 1A
FedEx

Temp. 16.3 IR ID:HOU-332
C/F:-0.2
Corrected Temp: 16.1

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out 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: Brian Whittaker	Date/Time: 6/21/22 1116	Company EATL	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: Patrick	Date/Time: 6/22/22 1015	Company Fx

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

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2436-1
SDG Number: 03E1558041

Login Number: 2436
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-2436-1
SDG Number: 03E1558041

Login Number: 2436
List Number: 2
Creator: Palmar, Pedro

List Source: Eurofins Houston
List Creation: 06/22/22 10:57 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
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?	N/A	
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	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2581-1
Laboratory Sample Delivery Group: 03E1558041
Client Project/Site: James Ranch Unit #10

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
7/19/2022 4:27:55 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 890-2581-1
SDG: 03E1558041

Table of Contents

Definitions/Glossary

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

Job ID: 890-2581-1
SDG: 03E1558041

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
Project/Site: James Ranch Unit #10

Job ID: 890-2581-1
SDG: 03E1558041

Job ID: 890-2581-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2581-1

Receipt
The sample was received on 7/18/2022 12:44 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice.

GC/MS VOA
Method 8260C_GRO: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2581-1). Elevated reporting limits (RLs) are provided.

Method 8260C_MOD: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2581-1). Elevated reporting limits (RLs) are provided.

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: 890-2581-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Lab Sample ID: 890-2581-1
Matrix: Air
Date Collected: 07/18/22 10:00
Date Received: 07/18/22 12:44
Sample Container: Other Client Container - preserved

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	3510		122		ppm v/v			07/19/22 16:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*60 - 140*		*07/19/22 15:56*	*1*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*07/19/22 16:18*	*10*
4-Bromofluorobenzene (Surr)	*106*		*60 - 140*		*07/19/22 16:41*	*10*

Method: 8260C - Volatile Organic Compounds (GCMS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	5.35		3.13		ppm v/v			07/19/22 15:56	1
Toluene	36.6		26.5		ppm v/v			07/19/22 16:18	10
Ethylbenzene	2.55		2.30		ppm v/v			07/19/22 15:56	1
m,p-Xylenes	58.0		46.1		ppm v/v			07/19/22 16:18	10
o-Xylene	14.4		2.30		ppm v/v			07/19/22 15:56	1
Xylenes, Total	58.0		46.1		ppm v/v			07/19/22 16:18	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 135*		*07/19/22 15:56*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*		*07/19/22 16:18*	*10*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*		*07/19/22 16:41*	*10*

Surrogate Summary

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

Job ID: 890-2581-1
SDG: 03E1558041

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)							
890-2581-1	Influent All Wells	98							
890-2581-1	Influent All Wells	108							
890-2581-1	Influent All Wells	102							
LCS 860-61552/3	Lab Control Sample	99							
LCSD 860-61552/4	Lab Control Sample Dup	99							
MB 860-61552/6	Method Blank	101							

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)							
890-2581-1	Influent All Wells	98							
890-2581-1	Influent All Wells	106							
890-2581-1	Influent All Wells	102							
LCS 860-61551/4	Lab Control Sample	103							
LCSD 860-61551/5	Lab Control Sample Dup	99							
MB 860-61551/7	Method Blank	97							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

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

Job ID: 890-2581-1
SDG: 03E1558041

Method: 8260C - Volatile Organic Compounds (GCMS)

Lab Sample ID: MB 860-61552/6
Matrix: Air
Analysis Batch: 61552

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<3.13	U	3.13		ppm v/v			07/19/22 15:11	1
Toluene	<2.65	U	2.65		ppm v/v			07/19/22 15:11	1
Ethylbenzene	<2.30	U	2.30		ppm v/v			07/19/22 15:11	1
m,p-Xylenes	<4.61	U	4.61		ppm v/v			07/19/22 15:11	1
o-Xylene	<2.30	U	2.30		ppm v/v			07/19/22 15:11	1
Xylenes, Total	<4.61	U	4.61		ppm v/v			07/19/22 15:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*		*07/19/22 15:11*	*1*

Lab Sample ID: LCS 860-61552/3
Matrix: Air
Analysis Batch: 61552

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			15.7	14.18		ppm v/v		91	70 - 125		
Toluene			13.3	12.65		ppm v/v		95	70 - 125		
Ethylbenzene			11.5	10.56		ppm v/v		92	70 - 125		
m,p-Xylenes			11.5	10.76		ppm v/v		93	70 - 125		
o-Xylene			11.5	10.42		ppm v/v		90	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 135*

Lab Sample ID: LCSD 860-61552/4
Matrix: Air
Analysis Batch: 61552

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			15.7	15.37		ppm v/v		98	70 - 125	8	35
Toluene			13.3	13.42		ppm v/v		101	70 - 125	6	35
Ethylbenzene			11.5	11.20		ppm v/v		97	70 - 125	6	35
m,p-Xylenes			11.5	11.31		ppm v/v		98	70 - 125	5	35
o-Xylene			11.5	11.18		ppm v/v		97	70 - 125	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 135*

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

Lab Sample ID: MB 860-61551/7
Matrix: Air
Analysis Batch: 61551

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<12.2	U	12.2		ppm v/v			07/19/22 15:11	1

QC Sample Results

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

Job ID: 890-2581-1
SDG: 03E1558041

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

Lab Sample ID: MB 860-61551/7
Matrix: Air
Analysis Batch: 61551

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140		07/19/22 15:11	1

Lab Sample ID: LCS 860-61551/4
Matrix: Air
Analysis Batch: 61551

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			122	134.6		ppm v/v		110	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		60 - 140

Lab Sample ID: LCSD 860-61551/5
Matrix: Air
Analysis Batch: 61551

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			122	129.1		ppm v/v		106	60 - 140	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		60 - 140

QC Association Summary

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

Job ID: 890-2581-1
SDG: 03E1558041

GC/MS VOA

Analysis Batch: 61551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2581-1	Influent All Wells	Total/NA	Air	8260C GRO	
890-2581-1	Influent All Wells	Total/NA	Air	8260C GRO	
890-2581-1	Influent All Wells	Total/NA	Air	8260C GRO	
MB 860-61551/7	Method Blank	Total/NA	Air	8260C GRO	
LCS 860-61551/4	Lab Control Sample	Total/NA	Air	8260C GRO	
LCSD 860-61551/5	Lab Control Sample Dup	Total/NA	Air	8260C GRO	

Analysis Batch: 61552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2581-1	Influent All Wells	Total/NA	Air	8260C	
890-2581-1	Influent All Wells	Total/NA	Air	8260C	
890-2581-1	Influent All Wells	Total/NA	Air	8260C	
MB 860-61552/6	Method Blank	Total/NA	Air	8260C	
LCS 860-61552/3	Lab Control Sample	Total/NA	Air	8260C	
LCSD 860-61552/4	Lab Control Sample Dup	Total/NA	Air	8260C	

Lab Chronicle

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

Job ID: 890-2581-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Date Collected: 07/18/22 10:00
Date Received: 07/18/22 12:44

Lab Sample ID: 890-2581-1

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	61552	07/19/22 15:56	JBS	XEN STF
Total/NA	Analysis	8260C		10	5 mL	5 mL	61552	07/19/22 16:18	JBS	XEN STF
Total/NA	Analysis	8260C		10	5 mL	5 mL	61552	07/19/22 16:41	JBS	XEN STF
Total/NA	Analysis	8260C GRO		1	5 mL	5 mL	61551	07/19/22 15:56	JBS	XEN STF
Total/NA	Analysis	8260C GRO		10	5 mL	5 mL	61551	07/19/22 16:18	JBS	XEN STF
Total/NA	Analysis	8260C GRO		10	5 mL	5 mL	61551	07/19/22 16:41	JBS	XEN STF

Laboratory References:

XEN STF = Eurofins Houston, 4147 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

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

Job ID: 890-2581-1
SDG: 03E1558041

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	T104704215-22-46	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
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: 890-2581-1
SDG: 03E1558041

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

Protocol References:

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

Laboratory References:

XEN STF = Eurofins Houston, 4147 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

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

Job ID: 890-2581-1
SDG: 03E1558041

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2581-1	Influent All Wells	Air	07/18/22 10:00	07/18/22 12:44

XENCO LABORATORIES

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #:

Stafford,Texas (281-240-4200) San Antonio, Texas (210-509-3334) Phoenix, 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 1 of 1

Client/Project Information

Company Name: Ensolum
Project Contact: Tacoma Morrissey
Email: tmorrissey@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): Gilbert Moreno, Connor Shore

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

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	7.18.2022	10:00			SV						X	X				

(1) Relinquished By:	Date/Time	(1) Received By:	
(2) Relinquished By:	Date/Time 7/18/22 1244	(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 Need By: 24 HR TAT
☐ 7 Day ☐ 2 Day
☐ 5 Day ☐ 1 Day

Shipping Information

☐ FedEx ☐ Other:
☐ UPS Tracking No.:
☐ LSO

Special Requests/Instructions: Collected 2-1 Liter Tedlar bags.
Bill to: ~~Adrian Baker~~, XTO Energy, Inc., Address: 3104 E. Green St. Carlsbad, NM
GARRET GREEN

890-2581 Chain of Custody

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2581-1
SDG Number: 03E1558041

Login Number: 2581
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-2581-1
SDG Number: 03E1558041

Login Number: 2581
List Number: 2
Creator: Milone, Jeancarlo

List Source: Eurofins Houston
List Creation: 07/19/22 12:10 PM

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?	N/A	
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	

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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2754-1
Laboratory Sample Delivery Group: 03E1558041
Client Project/Site: James Ranch Unit #10

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/16/2022 3:58:00 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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

Laboratory Job ID: 890-2754-1
SDG: 03E1558041

Table of Contents

Definitions/Glossary

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

Job ID: 890-2754-1
SDG: 03E1558041

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
Project/Site: James Ranch Unit #10

Job ID: 890-2754-1
SDG: 03E1558041

Job ID: 890-2754-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2754-1

Receipt
The sample was received on 8/15/2022 11:38 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.8°C

GC/MS VOA
Method 8260C_GRO: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2754-1). Elevated reporting limits (RLs) are provided.

Method 8260C_MOD: The following sample was diluted to bring the concentration of target analytes within the calibration range: Influent All Wells (890-2754-1). Elevated reporting limits (RLs) are provided.

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: 890-2754-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Lab Sample ID: 890-2754-1

Date Collected: 08/15/22 10:00
Matrix: Air
Date Received: 08/15/22 11:38
Sample Container: Other Client Container - unpreserved

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	**3010**		61.1		ppm v/v			08/16/22 15:26	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*08/16/22 15:26*	*5*
4-Bromofluorobenzene (Surr)	*99*		*60 - 140*		*08/16/22 15:49*	*5*

Method: 8260C - Volatile Organic Compounds (GCMS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<15.7	U	15.7		ppm v/v			08/16/22 15:26	5
Toluene	**35.9**		13.3		ppm v/v			08/16/22 15:26	5
Ethylbenzene	<11.5	U	11.5		ppm v/v			08/16/22 15:26	5
m,p-Xylenes	**52.2**		23.0		ppm v/v			08/16/22 15:26	5
o-Xylene	<11.5	U	11.5		ppm v/v			08/16/22 15:26	5
Xylenes, Total	**52.2**		23.0		ppm v/v			08/16/22 15:26	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 135*		*08/16/22 15:26*	*5*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*		*08/16/22 15:49*	*5*

Surrogate Summary

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

Job ID: 890-2754-1
SDG: 03E1558041

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)							
890-2754-1	Influent All Wells	103							
890-2754-1	Influent All Wells	101							
LCS 860-65172/3	Lab Control Sample	102							
LCSD 860-65172/4	Lab Control Sample Dup	99							
MB 860-65172/6	Method Blank	80							

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)							
890-2754-1	Influent All Wells	98							
890-2754-1	Influent All Wells	99							
LCS 860-65173/4	Lab Control Sample	102							
LCSD 860-65173/5	Lab Control Sample Dup	99							
MB 860-65173/7	Method Blank	97							

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

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

Job ID: 890-2754-1
SDG: 03E1558041

Method: 8260C - Volatile Organic Compounds (GCMS)

Lab Sample ID: MB 860-65172/6
Matrix: Air
Analysis Batch: 65172

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<3.13	U	3.13		ppm v/v			08/16/22 14:18	1
Toluene	<2.65	U	2.65		ppm v/v			08/16/22 14:18	1
Ethylbenzene	<2.30	U	2.30		ppm v/v			08/16/22 14:18	1
m,p-Xylenes	<4.61	U	4.61		ppm v/v			08/16/22 14:18	1
o-Xylene	<2.30	U	2.30		ppm v/v			08/16/22 14:18	1
Xylenes, Total	<4.61	U	4.61		ppm v/v			08/16/22 14:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*80*		*70 - 135*		*08/16/22 14:18*	*1*

Lab Sample ID: LCS 860-65172/3
Matrix: Air
Analysis Batch: 65172

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			15.7	13.32		ppm v/v		85	70 - 125		
Toluene			13.3	11.51		ppm v/v		87	70 - 125		
Ethylbenzene			11.5	10.25		ppm v/v		89	70 - 125		
m,p-Xylenes			11.5	10.37		ppm v/v		90	70 - 125		
o-Xylene			11.5	10.26		ppm v/v		89	70 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*

Lab Sample ID: LCSD 860-65172/4
Matrix: Air
Analysis Batch: 65172

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			15.7	13.46		ppm v/v		86	70 - 125	1	35
Toluene			13.3	11.81		ppm v/v		89	70 - 125	3	35
Ethylbenzene			11.5	10.38		ppm v/v		90	70 - 125	1	35
m,p-Xylenes			11.5	10.40		ppm v/v		90	70 - 125	0	35
o-Xylene			11.5	10.15		ppm v/v		88	70 - 125	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 135*

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

Lab Sample ID: MB 860-65173/7
Matrix: Air
Analysis Batch: 65173

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics	<12.2	U	12.2		ppm v/v			08/16/22 14:18	1

QC Sample Results

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

Job ID: 890-2754-1
SDG: 03E1558041

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

Lab Sample ID: MB 860-65173/7
Matrix: Air
Analysis Batch: 65173

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140		08/16/22 14:18	1

Lab Sample ID: LCS 860-65173/4
Matrix: Air
Analysis Batch: 65173

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			122	113.8		ppm v/v		93	60 - 140		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		60 - 140

Lab Sample ID: LCSD 860-65173/5
Matrix: Air
Analysis Batch: 65173

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			122	99.43		ppm v/v		81	60 - 140	13	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		60 - 140

QC Association Summary

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

Job ID: 890-2754-1
SDG: 03E1558041

GC/MS VOA

Analysis Batch: 65172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2754-1	Influent All Wells	Total/NA	Air	8260C	
890-2754-1	Influent All Wells	Total/NA	Air	8260C	
MB 860-65172/6	Method Blank	Total/NA	Air	8260C	
LCS 860-65172/3	Lab Control Sample	Total/NA	Air	8260C	
LCSD 860-65172/4	Lab Control Sample Dup	Total/NA	Air	8260C	

Analysis Batch: 65173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2754-1	Influent All Wells	Total/NA	Air	8260C GRO	
890-2754-1	Influent All Wells	Total/NA	Air	8260C GRO	
MB 860-65173/7	Method Blank	Total/NA	Air	8260C GRO	
LCS 860-65173/4	Lab Control Sample	Total/NA	Air	8260C GRO	
LCSD 860-65173/5	Lab Control Sample Dup	Total/NA	Air	8260C GRO	

Lab Chronicle

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

Job ID: 890-2754-1
SDG: 03E1558041

Client Sample ID: Influent All Wells

Date Collected: 08/15/22 10:00
Date Received: 08/15/22 11:38

Lab Sample ID: 890-2754-1

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		5	5 mL	5 mL	65172	08/16/22 15:26	JBS	EET HOU
Total/NA	Analysis	8260C		5	5 mL	5 mL	65172	08/16/22 15:49	JBS	EET HOU
Total/NA	Analysis	8260C GRO		5	5 mL	5 mL	65173	08/16/22 15:26	JBS	EET HOU
Total/NA	Analysis	8260C GRO		5	5 mL	5 mL	65173	08/16/22 15:49	JBS	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: 890-2754-1
SDG: 03E1558041

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	T104704215-22-47	06-30-23

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

Analysis Method	Prep Method	Matrix	Analyte
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: 890-2754-1
SDG: 03E1558041

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: 890-2754-1
SDG: 03E1558041

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-2754-1	Influent All Wells	Air	08/15/22 10:00	08/15/22 11:38

XENCO LABORATORIES

Setting the Standard since 1990

AIR SAMPLING CHAIN OF CUSTODY

Xenco Job #:

8/16/2022

Stafford,Texas (281-240-4200) San Antonio, Texas (210-509-3334) Phoenix, 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 1 of 1

Client/Project Information

Company Name: Ensolum
Project Contact: Tacoma Morrissey
Email: tmorrissey@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): Gilbert Moreno, Connor Shore

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

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	8.15.2022	10:00			SV						X	X	

890-2754 Chain of Custody

	Date/Time		
(1) Relinquished By:		(1) Received By:	
(2) Relinquished By: Amanda Stuff	8/15/22 1138	(2) Received By:	
(3) Relinquished By:		(3) Received By:	
(4) Relinquished By:		(4) Received By:	

Requested TAT

☐ Contract TAT ☐ 3 Day ☑ Same Day
☐ 7 Day ☐ 2 Day Need By: 24HR
☐ 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

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-881 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Texas		Job #: 890-2754-1
Address: 4145 Greenbriar Dr	Due Date Requested: 8/16/2022			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: james ranch unit #10	Project #: 89000093			
Site:	SSOW#:			

Analysis Requested

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

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_GRO/Tedlar_A_5030C GRO	8260C_MOD/Tedlar_A_5030C BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
influent all wells (890-2754-1)	8/15/22	10:00 Mountain		Air			X	X	2	

Temp. 20.2 IR ID:HOU-338
C/F +1.4
Corrected Temp: 21.6

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon out 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 complicance 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: 8/16/22 1021	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2754-1
SDG Number: 03E1558041

Login Number: 2754
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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: 890-2754-1
SDG Number: 03E1558041

Login Number: 2754
List Number: 2
Creator: Rubio, Yuri

List Source: Eurofins Houston
List Creation: 08/16/22 11:44 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
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	

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

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

CONDITIONS

Action 138598

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 138598
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Solar SVE System Update for James Ranch Unit #10 Battery: Content Satisfactory 1.Continue to operate SVE system and conduct O&M activities on a monthly basis. 2. Continue to submit quarterly progress reports pertaining to the SVE system and submit to NMOCD.	8/9/2023