

April 25, 2024

#### **New Mexico Oil Conservation Division**

New Mexico Energy, Mineral, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Subject: 2024 First Quarter - Solar SVE System Update

> **Trunk L Tank Battery Harvest Four Corners. LLC** Incident Number NVF1900731813 Remediation Permit Number 3RP-13665 Rio Arriba County, New Mexico

## To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Harvest Four Corners, LLC (Harvest), presents the following 2024 First Quarter - Solar SVE System Update report summarizing the soil vapor extraction (SVE) system performance at the Trunk L Tank Battery (Site), located in Unit A of Section 28, Township 28 North, Range 05 West, in Rio Arriba County, New Mexico (Figure 1).

#### BACKGROUND

The solar SVE system was installed on September 18, 2019, to remediate subsurface soil impacts following a release on December 14, 2018. Excessive liquids were released onto the Site during a pigging event. Additionally, the volume of fluid in the slug catcher was elevated due to a stuck float valve, causing a release of approximately 22 barrels (bbls) into the lined secondary containment. Harvest reported the release to the New Mexico Oil Conservation Division (NMOCD) on a release Notification and Corrective Action Form C-141 on December 28, 2018, and the event was assigned Incident Number NVF1900731813. A solar SVE system was installed to remediate impacts resulting from the release. Reports summarizing remediation system operation for previous guarters of system operation have been submitted to the NMOCD.

#### SOLAR SVE SYSTEM OPERATION AND MONITORING

The solar SVE system consists of three shallow wells (SVE01, SVE03, and SVE05) with depths ranging from 15 feet to 20 feet below ground surface (bgs) with 10-foot screened intervals, and three deep wells (SVE02, SVE04, and SVE06) with depths ranging from 35 feet to 40 feet bgs with 10-foot screened intervals. The solar SVE system is comprised of a 2.75 horsepower, threephase blower capable of extracting 105 cubic feet per minute (cfm) at 50 inches of water column (IWC) vacuum, with a maximum vacuum capability of 84 IWC. Each SVE well has a dedicated leg with an adjustable valve and vacuum gauge to control the individual flow rates and vacuum prior to manifolding together before the water knockout tank and blower. Harvest utilized a solarpowered SVE system due to the remote location and the lack of electrical grid power at the Site. The direct-drive blower motor is connected to the solar panels via a motor controller that automatically starts the system as sunlight is available and throttles the blower up as sun power increases throughout the day to maximize efficiency. Seasonally, there are approximately 10 hours in the winter and 12 hours in the summer of available solar power in Farmington, New Harvest Four Corners, LLC Trunk L Tank Battery

Mexico. The complete solar SVE system is constructed as one unit designed for utilization at offgrid locations and operates autonomously. The layout of the solar SVE system is depicted on Figure 2.

Between startup of the solar SVE system on September 18, 2019, and the last quarterly Site visit on March 28, 2024, there have been 1,653 days of operation, with an estimated 19,020 total hours of nominal daylight available for solar SVE system operations. A photographic log of the hours meter reading is included as Appendix A. Since installation, the system had an actual runtime of 19,678 hours, for an overall uptime of 103.5 percent (%) of the available runtime hours. Below is a table showing SVE system runtime in comparison with nominal available daylight hours per month, according to the National Renewable Energy Laboratory (NREL).

## **SVE System Runtime**

Time Period	Start up on September 18, 2019 to Decmeber 15, 2023	December 16, 2023 to December 31, 2023	January 1, 2024 to January 31, 2024	February 1, 2024 to Februaruy 29, 2024	March 1, 2024 to March 28, 2024
Days	1,549	16	31	29	28
Avg. Nominal Daylight Hours	11.6	9	10	10	11
Available Runtime Hours	17,968	144	310	290	308

Total Available Daylight Runtime Hours
Actual Runtime Hours
19,678
Cumulative % Runtime
103.5%
Quarterly Available Daylight Runtime Hours
Quarterly Runtime Hours
Quarterly % Runtime
103.0%

#### AIR EMISSIONS MONITORING

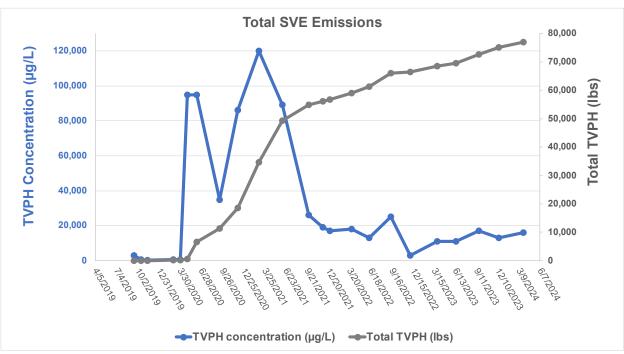
An initial air sample was collected on September 18, 2019, from the influent side of the blower on the SVE system. Subsequent air samples were collected quarterly with the most recent sample collected March 28, 2024 (Table 1). Samples were collected in 1-Liter Tedlar<sup>®</sup> bags via a high vacuum air sampler and submitted to Eurofins (formerly Hall Environmental Analysis Laboratory) in Albuquerque, New Mexico, for analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B and total volatile petroleum hydrocarbons (TVPH) following EPA Method 8015D. The laboratory analytical report from the March 2024 sampling event is included as Appendix B.

Estimated air emissions were calculated using air sample data collected to date (Table 2). The impacted mass source removal via the solar SVE system to-date is estimated to be 76,956 pounds (lbs) (or 38.48 tons) of TVPH. An increase in TVPH mass removal was observed in May 2020 as a result of system optimization, through focusing system operation on the four SVE wells that were recovering vapor with the highest photoionization detector (PID) measurements (SVE03, SVE04, SVE05, and SVE06). After the reconfiguration in May 2020, there was a peak TVPH inlet concentration in March 2021 of 120,000 micrograms per liter ( $\mu$ g/L). Concentrations have since decreased and have generally ranged between 10,000 to 20,000  $\mu$ g/L since 2022. Total mass removal has continued at a steady rate, as seen in the graph below, due to system repairs and optimization.

Since December 2023, operation was adjusted to focus on all SVE wells (SVE02, SVE03, SVE04, SVE05 and SVE06) except SVE01, due to decreased headspace PID readings.



Harvest Four Corners, LLC Trunk L Tank Battery



#### Notes:

TVPH – total volatile petroleum hydrocarbons  $\mu g/L$  – micrograms per liter lbs – pounds

The March 2024 TVPH emissions rate decreased slightly from the fourth quarter 2024 rate, with a rate of approximately 1.80 pounds per hour (lbs/hr) or approximately 18.0 pounds per day, based on the average nominal daylight hours available, indicating the SVE system is still effectively remediating the Site. The mass removal rate will continue to be monitored to evaluate system effectiveness.

## PLAN FOR NEXT QUARTER OF OPERATION

During the upcoming second quarter 2024 operations, Ensolum will continue to visit the Site monthly to ensure a minimum of 90% runtime efficiency continues and any maintenance issues are addressed in a timely manner. An air sample will be collected in the second quarter 2024 and analyzed for BTEX and TVPH. An updated quarterly report with sample results, runtime, and mass source removal will be submitted by July 31, 2024.

Quarterly air sampling and reporting will continue until the mass removal rate declines to an asymptotic level and indicates hydrocarbon impacts have been reduced at the Site to the maximum extent practicable. At that time, Ensolum will conduct additional soil sampling to investigate potential residual impacts and request closure if concentrations of BTEX and TPH are below the applicable Table I Closure Criteria as detailed in the approved *Remediation Work Plan*, dated May 28, 2019.

If the final delineation samples indicate hydrocarbon impacts have been remediated with chemicals of concern concentrations in compliance with the Table I Closure Criteria, Ensolum will present the confirmation laboratory analysis data in a report and request closure of the release. Should the results indicate analytes in the soil exceed the Table I Closure Criteria, Ensolum will either make operational adjustments and restart the SVE system based on the results of the investigation or develop an alternative remedial approach to reach Site closure.

Harvest Four Corners, LLC Trunk L Tank Battery

Ensolum appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this update, do not hesitate to contact Danny Burns at (303) 601-1420 or via email at <a href="mailto:dburns@ensolum.com">dburns@ensolum.com</a> or Jennifer Deal at (505) 324-5128 or at <a href="mailto:jdeal@harvestmidstream.com">jdeal@harvestmidstream.com</a>.

Sincerely,

**ENSOLUM, LLC** 

Reece Hanson Project Geologist Danny Burns Senior Geologist

#### **APPENDICES**

Figure 1 – Site Location Map

Figure 2 – SVE System Layout

Table 1 – SVE System Emissions Analytical Results

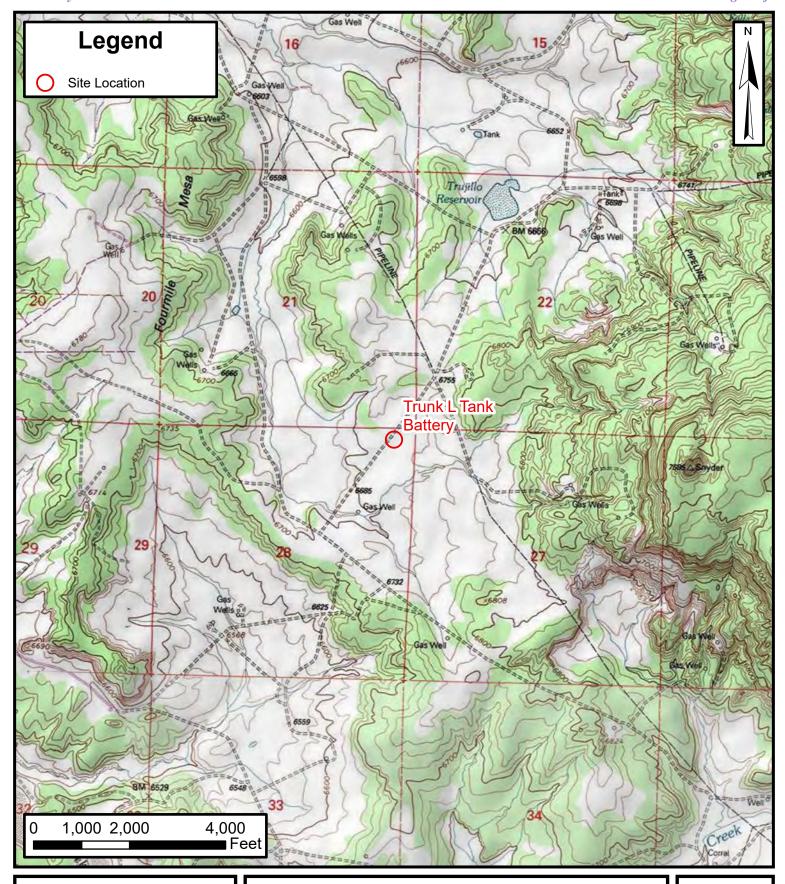
Table 2 – SVE Mass Removal & Emissions Summary

Appendix A - Photographic Log

Appendix B – Laboratory Analytical Report



**FIGURES** 

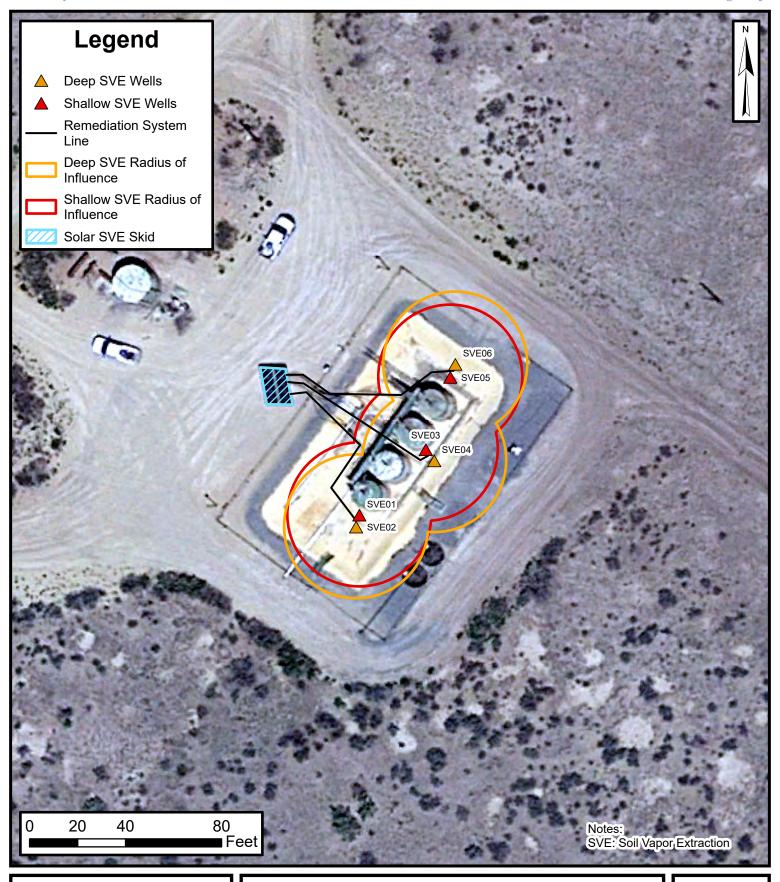




## **Site Location Map**

Trunk L Tank Battery Harvest Four Corners, LLC 36.638705, -107.357047 Rio Arriba County, New Mexico FIGURE

1





## **SVE System Layout**

Trunk L Tank Battery Harvest Four Corners, LLC 36.638705, -107.357047 Rio Arriba County, New Mexico FIGURE

2



**TABLES** 



# TABLE 1 SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS Trunk L Tank Battery

Harvest Four Corners, LLC

	Rio Arriba County, New Mexico											
Date PID (ppm)		Benzene (µg/L)	Toluene (μg/L)	Ethylbenzene (µg/L)	Total Xylenes (μg/L)	TVPH/GRO (μg/L)						
9/18/2019	946	1,000	1,500	50	550	NA						
10/18/2019	931	250	410	6.5	74	NA						
11/14/2019	578	1.8	4.3	0.19	1.7	250						
3/3/2020	868	3.9	22	1.3	13	760						
5/1/2020	913	610	1,500	58	570	95,000						
6/10/2020	1,527	640	1,600	56	530	95,000						
9/15/2020	1,077	180	840	24	230	35,000						
12/2/2020	1,320	380	1,100	23	270	86,000						
3/1/2021	1,469	440	2,100	110	1,100	120,000						
6/8/2021	1,380	300	1,200	42	380	89,000						
9/28/2021	916	150	230	<10	49	26,000						
11/29/2021	573	78	280	9.1	84	19,000						
12/27/2021	NA	120	240	<5.0	47	17,000						
3/31/2022	406	76	210	5.5	47	18,000						
6/13/2022	736	65	190	<5.0	51	13,000						
9/13/2022	1,640	62	170	<5.0	33	25,000						
12/5/2022	4,561	15	54	<5.0	13	2,900						
3/28/2023	1,296	27	89	5.8	57	11,000						
6/16/2023	1,263	22	63	<5.0	39	11,000						
9/22/2023	1,238	47	160	5.1	110	17,000						
12/15/2023	1,387	36	100	7.1	61	13,000						
3/28/2024	1,085	40	120	7.8	86	16,000						

#### Notes:

NA: Not analyzed µg/L: microgram per liter

PID: photoionization detector ppm: parts per million

GRO: gasoline range organics

TVPH: total volatile petroleum hydrocarbons

Italics denote that the laboratory method detection limit was reported

Ensolum, LLC 1 of 1



# TABLE 2 SOIL VAPOR EXTRACTION MASS REMOVAL AND EMISSIONS Trunk L Tank Battery Harvest Four Corners, LLC Rio Arriba County, New Mexico

Flow and Laboratory Analysis

Flow and Laboratory Analysis										
Date	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (μg/L)	TVPH (µg/L)				
9/18/2019*	1,435	1,000	1,500	50	550	3,013				
10/18/2019*	931	250	410	6.5	74	744				
11/14/2019	578	1.8	4.3	0.19	1.7	250				
3/3/2020	868	3.9	22	1.3	13	760				
4/1/2020**	838	3.7	21	1.2	12	733				
5/1/2020	913	610	1,500	58	570	95,000				
6/10/2020	1,527	640	1,600	56	530	95,000				
9/15/2020	1,077	180	840	24	230	35,000				
12/2/2020	1,320	380	1,100	23	270	86,000				
3/1/2021	1,469	440	2,100	110	1,100	120,000				
6/8/2021	1,380	300	1,200	42	380	89,000				
9/28/2021	916	150	230	10	49	26,000				
11/29/2021	573	78	280	9.1	84	19,000				
12/27/2021		120	240	5.0	47	17,000				
3/31/2022	406	76	210	5.5	47	18,000				
6/13/2022	736	65	190	5.0	51	13,000				
9/13/2022	1,640	62	170	5.0	33	25,000				
12/5/2022	4,561	15	54	5.0	13	2,900				
3/28/2023	1,296	27	89	5.8	57	11,000				
6/16/2023	1,263	22	63	5.0	39	11,000				
9/22/2023	1,238	47	160	5.1	110	17,000				
12/15/2023	1,387	36	100	7.1	61	13,000				
3/28/2024	1,085	40	120	7.8	86	16,000				
Average	1,247	198	531	19	192	31,061				

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)
9/18/2019	33.7	3,033	3,033	0.1262	0.1892	0.0063	0.0694	0.3801
10/18/2019	37.8	723,303	720,270	0.0353	0.0579	0.0009	0.0105	0.1051
11/14/2019	38.0	1,334,343	611,040	0.0003	0.0006	0.0000	0.0002	0.0356
3/3/2020	21.3	2,898,866	1,564,523	0.0003	0.0018	0.0001	0.0010	0.0605
4/1/2020	21.3	3,795,613	896,747	0.0003	0.0017	0.0001	0.0010	0.0583
5/1/2020	39.2	3,882,637	87,024	0.0895	0.2201	0.0085	0.0836	13.9404
6/10/2020	29.3	4,869,885	987,248	0.0703	0.1757	0.0061	0.0582	10.4304
9/15/2020	27.8	7,089,263	2,219,378	0.0187	0.0873	0.0025	0.0239	3.6384
12/2/2020	26.6	8,447,393	1,358,130	0.0379	0.1097	0.0023	0.0269	8.5730
3/1/2021	40.0	10,571,393	2,124,000	0.0659	0.3144	0.0165	0.1647	17.9683
6/8/2021	34.2	13,226,681	2,655,288	0.0384	0.1536	0.0054	0.0486	11.3941
9/28/2021	37.0	16,596,641	3,369,960	0.0208	0.0319	0.0014	0.0068	3.6011
11/29/2021	28.7	17,746,416	1,149,775	0.0084	0.0301	0.0010	0.0090	2.0434
12/27/2021	30.4	18,233,905	487,489	0.0137	0.0273	0.0006	0.0054	1.9365
3/31/2022	36.0	20,402,545	2,168,640	0.0102	0.0283	0.0007	0.0063	2.4257
6/13/2022	46.0	23,209,465	2,806,920	0.0112	0.0327	0.0009	0.0088	2.2385
9/13/2022	40.0	26,214,265	3,004,800	0.0093	0.0255	0.0007	0.0049	3.7434
12/5/2022	31.0	27,901,285	1,687,020	0.0017	0.0063	0.0006	0.0015	0.3365
3/28/2023	42.0	30,864,805	2,963,520	0.0042	0.0140	0.0009	0.0090	1.7294
6/16/2023	27.0	32,607,925	1,743,120	0.0022	0.0064	0.0005	0.0039	1.1118
9/22/2023	35.0	35,415,625	2,807,700	0.0062	0.0210	0.0007	0.0144	2.2273
12/15/2023	56.0	38,429,545	3,013,920	0.0075	0.0210	0.0015	0.0128	2.7252
3/28/2024	30.0	40,380,745	1,951,200	0.0045	0.0135	0.0009	0.0097	1.7968
			Average	0.03	0.07	0.003	0.03	4.02



## TABLE 2 SOIL VAPOR EXTRACTION MASS REMOVAL AND EMISSIONS Trunk L Tank Battery

Harvest Four Corners, LLC
Rio Arriba County, New Mexico

#### Flow and Laboratory Analysis

Date	Total SVE System Hours	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
9/18/2019	1.5	1.5	0.2	0.3	0.0	0.1	0.6	0.000
10/18/2019	319.5	318	11.2	18.4	0.3	3.3	33.4	0.017
11/14/2019	587.5	268	0.1	0.2	0.0	0.1	9.5	0.005
3/3/2020	1,814	1,226.5	0.4	2.1	0.1	1.3	74.2	0.037
4/1/2020	2,517	703	0.2	1.2	0.1	0.7	41.0	0.021
5/1/2020	2,554	37	3.3	8.1	0.3	3.1	515.8	0.258
6/10/2020	3,115	561	39.4	98.6	3.4	32.6	5,851	2.926
9/15/2020	4,447	1,332	24.9	116.3	3.3	31.8	4,846	2.423
12/2/2020	5,297	850	32.2	93.2	1.9	22.9	7,287	3.644
3/1/2021	6,182	885	58.3	278.3	14.6	145.8	15,902	7.951
6/8/2021	7,476	1,294	49.7	198.8	7.0	63.0	14,744	7.372
9/28/2021	8,994	1,518	31.5	48.4	2.1	10.3	5,467	2.733
11/29/2021	9,661	667	5.6	20.1	0.7	6.0	1,363	0.681
12/27/2021	9,928	267	3.6	7.3	0.2	1.4	517.0	0.259
3/31/2022	10,932	1,004	10.3	28.4	0.7	6.4	2,435	1.218
6/13/2022	11,949	1,017	11.4	33.3	0.9	8.9	2,277	1.138
9/13/2022	13,201	1,252	11.6	31.9	0.9	6.2	4,687	2.343
12/5/2022	14,108	907	1.6	5.7	0.5	1.4	305	0.153
3/28/2023	15,284	1,176	5.0	16.5	1.1	10.5	2,034	1.017
6/16/2023	16,360	1,076	2.4	6.9	0.5	4.2	1,196	0.598
9/22/2023	17,697	1,337	8.2	28.0	0.9	19.3	2,978	1.489
12/15/2023	18,594	897	6.8	18.8	1.3	11.5	2,444	1.222
3/28/2024	19,678	1,084	4.9	14.6	0.9	10.5	1,948	0.974
	Total Ma	ss Recovery to Date	322.8	1,075.2	41.9	401.2	76,956.0	38.48

#### Notes:

\* - TVPH data extrapolated from PID values

\*\* - Analytical data extrapolated from PID values µg/L - microgram per liter

BTEX - benzene, toluene, ethylbenzene, total xylenes PID - photoionization detector cf - cubic feet ppm - parts per million

cfm - cubic feet per minute TVPH - total volatile petroleum hydrocarbons lbs - pounds VOC - volatile organic compounds

lb/hr - pounds per hour VOC Mass Removed (lbs) = Influent VOCs (mg/m³) \* Air Flow Rates (cfm) \* (1 m³/35.3147 ft³) \* (1 lb/453,592 mg) \* Time Period (min)

 $\textit{Italics denote that the laboratory method detection limit was used for calculations for a non-detected \textit{result}}$ 



**APPENDIX A** 

Photographic Log



Photographic Log Trunk L Tank Battery Harvest Four Corners, LLC Rio Arriba County, New Mexico

Photo #1 SVE Hours Reading 1/26/2024

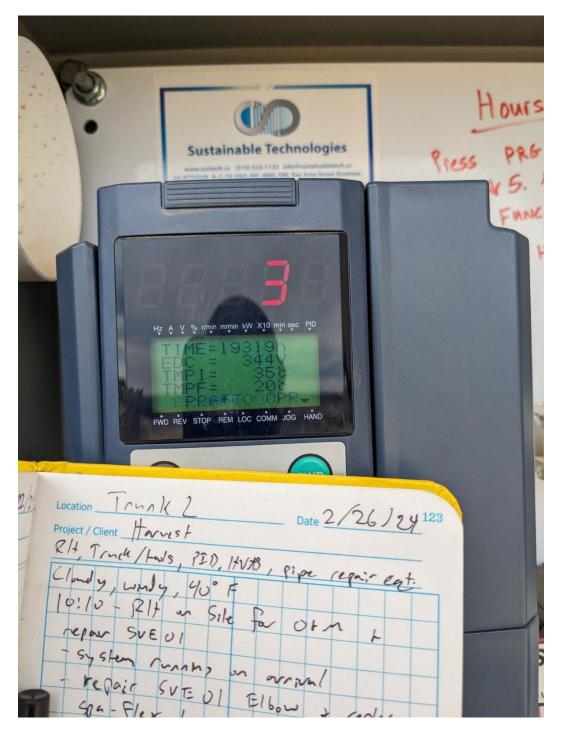




Photographic Log
Trunk L Tank
Battery
Harvest Four Corners,
LLC
Rio Arriba County,

New Mexico

Photo #2 SVE Hours Reading 2/26/2024





Photographic Log Trunk L Tank Battery Harvest Four Corners, LLC Rio Arriba County, New Mexico

Photo #3 SVE Hours Reading 3/28/2024





**APPENDIX B** 

Laboratory Analytical Report

**Environment Testing** 

## **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Oakley Hayes Harvest 1755 Arroyo Dr. Bloomfield, New Mexico 87413

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## **JOB DESCRIPTION**

Trunk L

## **JOB NUMBER**

885-2011-1

Eurofins Albuquerque 4901 Hawkins NE Albuquerque NM 87109

## **Eurofins Albuquerque**

## **Job Notes**

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

## **Authorization**

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Authorized for release by Andy Freeman, Business Unit Manager andy.freeman@et.eurofinsus.com (505)345-3975

4/4/2024

Laboratory Job ID: 885-2011-1

Client: Harvest Project/Site: Trunk L

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## **Definitions/Glossary**

Client: Harvest Job ID: 885-2011-1

Project/Site: Trunk L

## **Glossary**

Abbreviation	These commonly used abbreviations may or may not be present in this report.
n	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

## **Client Sample Results**

Client: Harvest Job ID: 885-2011-1

Project/Site: Trunk L

Client Sample ID: Trunk L Q1 Influent Lab Sample ID: 885-2011-1

Date Collected: 03/28/24 13:20 Matrix: Air

Date Received: 03/29/24 07:55

Sample Container: Tedlar Bag 1L

Method: SW846 8015D - Gasoline Range Organics (GRO) (GC)											
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac			
Gasoline Range Organics [C6 - C10]	16000		250	ug/L			04/03/24 11:30	50			
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	144		15 - 412				04/03/24 11:30	50			

4-Bromofluorobenzene (Surr)	144		15 - 412				04/03/24 11:30	50			
Method: SW846 8021B - Volatile Organic Compounds (GC)											
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac			
Benzene	40		5.0	ug/L			04/03/24 11:30	50			
Ethylbenzene	7.8		5.0	ug/L			04/03/24 11:30	50			
Toluene	120		5.0	ug/L			04/03/24 11:30	50			
Xylenes, Total	86		10	ug/L			04/03/24 11:30	50			
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	84		70 - 130		-		04/03/24 11:30	50			

Eurofins Albuquerque

Job ID: 885-2011-1

Client: Harvest Project/Site: Trunk L

Method: 8015D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-2766/7 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Air

**Analysis Batch: 2766** 

MB MB Analyte Result Qualifier RL Unit D Prepared Analyzed Dil Fac Gasoline Range Organics [C6 - C10] ND 5.0 ug/L 04/03/24 10:19

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 100 15 - 412 04/03/24 10:19

Lab Sample ID: LCS 885-2766/6 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Air

**Analysis Batch: 2766** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits 50.0 53.5 107 Gasoline Range Organics [C6 ug/L 70 - 130

C10]

LCS LCS

%Recovery Qualifier Limits Surrogate 15 - 412 4-Bromofluorobenzene (Surr) 211

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-2767/7 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Air

**Analysis Batch: 2767** 

MB MB Analyte Result Qualifier RL Unit D Analyzed Dil Fac Prepared ND 0.10 04/03/24 10:19 Benzene ug/L Ethylbenzene ND 0.10 ug/L 04/03/24 10:19 ug/L Toluene NΠ 0.10 04/03/24 10:19 Xylenes, Total ND 0.20 ug/L 04/03/24 10:19

MB MB

Surrogate %Recovery Qualifier Limits Dil Fac Prepared Analyzed 4-Bromofluorobenzene (Surr) 70 - 130 04/03/24 10:19 87

Matrix: Air

Lab Sample ID: LCS 885-2767/6

**Analysis Batch: 2767** Spike LCS LCS %Rec Result Qualifier Limits Analyte Added Unit D %Rec 2.00 1.75 87 Benzene ug/L 70 - 130 Ethylbenzene 2.00 1.78 ug/L 89 70 - 130 m&p-Xileno 4.00 3.61 ug/L 90 70 - 130

70 - 130 o-Xylene 2.00 1.76 ug/L 88 2 00 88 70 - 130 Toluene 1 76 ug/L Xylenes, Total 6.00 5.37 ug/L 89 70 - 130

LCS LCS Surrogate %Recovery Qualifier Limits 70 - 130 4-Bromofluorobenzene (Surr) 90

Eurofins Albuquerque

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

4/4/2024

## **QC Association Summary**

Client: Harvest Job ID: 885-2011-1

Project/Site: Trunk L

## **GC VOA**

## Analysis Batch: 2766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2011-1	Trunk L Q1 Influent	Total/NA	Air	8015D	
MB 885-2766/7	Method Blank	Total/NA	Air	8015D	
LCS 885-2766/6	Lab Control Sample	Total/NA	Air	8015D	

## Analysis Batch: 2767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-2011-1	Trunk L Q1 Influent	Total/NA	Air	8021B	
MB 885-2767/7	Method Blank	Total/NA	Air	8021B	
LCS 885-2767/6	Lab Control Sample	Total/NA	Air	8021B	

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## Lab Chronicle

Client: Harvest Job ID: 885-2011-1

Project/Site: Trunk L

Client Sample ID: Trunk L Q1 Influent Lab Sample ID: 885-2011-1

Date Collected: 03/28/24 13:20 Matrix: Air

Date Received: 03/29/24 07:55

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8015D		50	2766	JP	EET ALB	04/03/24 11:30
Total/NA	Analysis	8021B		50	2767	JP	EET ALB	04/03/24 11:30

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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## **Accreditation/Certification Summary**

Client: Harvest Job ID: 885-2011-1

Project/Site: Trunk L

## **Laboratory: Eurofins Albuquerque**

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

Authority	Program	Identification Number	Expiration Date		
New Mexico	State	NM9425, NM0901	02-26-25		

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

Analysis Method	Prep Method	Matrix	Analyte	
8015D		Air	Gasoline Range Orga	nics [C6 - C10]
8021B		Air	Benzene	
8021B		Air	Ethylbenzene	
8021B		Air	Toluene	
8021B		Air	Xylenes, Total	
Oregon	NELAF	>	NM100001	02-26-25

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

Analysis Method	Prep Method	Matrix	Analyte
8015D		Air	Gasoline Range Organics [C6 - C10]
8021B		Air	Benzene
8021B		Air	Ethylbenzene
8021B		Air	Toluene
8021B		Air	Xylenes, Total

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**Chain-of-Custody Record** 

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HALL ENVIRONMENTAL

**ANALYSIS LABORATORY** 

Mailing Address:   Project Name:	(BTEX) MTBE / TMB's (8021)		505. le.	0.000 (C.)	-3975	NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	buqu Fax <b>ysis</b>	505 Req	e, NA -345-4 -345-4 -345-4 -345-4 -345-4	1 87109		85-201	1 coc
Phone #:  email or Fax#:  QA/QC Package:  Standard  Level 4 (Full Validation)  Accreditation:  NELAC  On Ice:  Yes  No You  Container  Type and # Type  Project Manager: Rece Hanson  Accred Hanson  Project Manager: Rece Hanson  Accred Hanson  Container  Preservative  HEAL No.  Type and # Type	(BTEX) MTBE / TMB's (8021)	Te	bl. 505	(1.3	5-3975 SWISO228	NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	Fax ysis	505 Req	-345-4 quest (tuesqV/tuese			85-201	1 COC
email or Fax#:  QA/QC Package:  Standard  Accreditation:  NELAC  EDD (Type)  Date Time Matrix Sample Name  Project Manager: Rece Hanson  Accreditation:  Sampler:  On Ice:  Yes INO You:  Container Preservative HEAL No.  Type and # Type	C(BTEX) WIBE / TMB's (8021)	PH:8015D(GRO / DRO / MRO)	Pesticides/8082 PCB's	ethod 504.1)	8270SIMS	NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub>	ysis	Rec	esent/Absent)		8	85-201	1 COC
Accreditation:	(BTEX) MTBE / TMB's (8021)	PH:8015D(GRO / DRO / MRO)	Pesticides/8082 PCB's	ethod 504.1)	3310 or 8270SIMS Aetals	NO <sub>2</sub> , PO <sub>4</sub> ,		A)	resent/Absent)				
Accreditation:	(BTEX) MTBE / TMB's (802	PH:8015D(GRO / DRO / MR	Pesticides/8082 PCB's	ethod 504.1)	3310 or 8270SIMS Aetals	NO <sub>2</sub> , PO <sub>4</sub> ,		(A)	resent/Abse				
□ NELAC □ Other On Ice: □ Yes □ No You; □ EDD (Type) # of Coolers: 1  Cooler Temp((notuding CF): ②, 1 - ②, 1 ≥ Ø, 0 (°C))  Date Time Matrix Sample Name Type and # Type	C(BTEX) MTBE / TME	H:8015D(GRO / DF	Pesticides/8082	ethod 504.1)	3310 or 827 1etals		j	<u></u>	rese			ŀ	- 1
Cooler Temp(Including CF): (G, 1 - O, 1 > O, 0) (°C)  Container Preservative HEAL No.  Type and # Type	C (BTEX) TWTB	H:8015D(G	Pesticid	ethod	33.1 dets	1 \( \text{\tin}\xi}\\ \text{\tin}\xi}\\ \text{\tin}\xi}\\ \text{\ti}\}\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\texi}\text{\text{\texi}\xi}\\ \text{\text{\texi}\text{\texi}\text{\texi}\text{\texi}\text{\text{\texi}\text{\text{\texi}\		10					
Date Time Matrix Sample Name Type and # Type		) <del>អ</del>		. اج	9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Cl, F, Br, NO <sub>3</sub> ,	8260 (VOA)	8270 (Semi-VOA)	Coliforn				
3-28 1300 gas Trunk L Q1 Influent 2xtellar -	h/	/ <u> </u>	8081	EDB	PAHS RCR/	, F,	8260	8270	Total				
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3/28/21/1500 / CMA War 3/18/24 1506	Ren	nark	s:				<u> </u>				<u>L</u>		1
Date. Time Relinquished by Received by: Via: Date Time  Time Received by: Via: Date Time  Time Relinquished by Office Time  This serves as notice of this serves as notice													

Turn-Around Time:

□ Rush

Standard

## **Login Sample Receipt Checklist**

Client: Harvest Job Number: 885-2011-1

Login Number: 2011 List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
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.	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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

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 339334

## **CONDITIONS**

Operator:	OGRID:		
Harvest Four Corners, LLC	373888		
1755 Arroyo Dr	Action Number:		
Bloomfield, NM 87413	339334		
	Action Type:		
	[REPORT] Alternative Remediation Report (C-141AR)		

#### CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue with O & M schedule. 2. Submit next quarterly report by July 15, 2024.	5/2/2024