

**ENSOLUM****REVIEWED**

By Nelson Velez at 2:51 pm, May 10, 2023

1. Continue with "Plan for Next Quarter of Operation" as stated within this report.
2. Submit next quarterly report by July 31, 2023.

April 26, 2023

New Mexico Oil Conservation Division – District III
New Mexico Energy, Mineral, and Natural Resources Department
1000 Rio Brazos Road
Aztec, New Mexico 87410

Subject: 2023 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 *2023 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 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 the previous quarters 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 below ground surface (bgs) to 20 feet bgs with ten feet of screened interval, and three deep wells (SVE02, SVE04 and SVE06) with depths ranging from 35 feet bgs to 40 feet bgs with ten feet of screened interval. The solar SVE system is comprised of a 2.75 horsepower, three-phase 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 solar-powered 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 Mexico. The complete solar SVE system is constructed as one unit designed for utilization at off-

Harvest Four Corners, LLC
Trunk L Tank Battery

grid 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, 2023, there have been 1,287 days of operation, with an estimated 14,750 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 15,284 hours, for an overall uptime of 103.6 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).

Time Period	Start up on September 18, 2019 to December 5, 2022	December 6, 2022, to December 31, 2022	January 1, 2023, to January 31, 2023	February 1, 2023, to February 28, 2023	March 1, 2023, to March 28, 2023
Days	1,174	26	31	28	28
Avg. Nominal Daylight Hours	11.6	9	10	10	11
Available Runtime Hours	13,618	234	310	280	308

Total Available Daylight Runtime Hours	14,750
Actual Runtime Hours	15,284
Cumulative % Runtime	103.6%
Quarterly Available Daylight Runtime Hours	1,132
Quarterly Runtime Hours	1,176
Quarterly % Runtime	103.9%

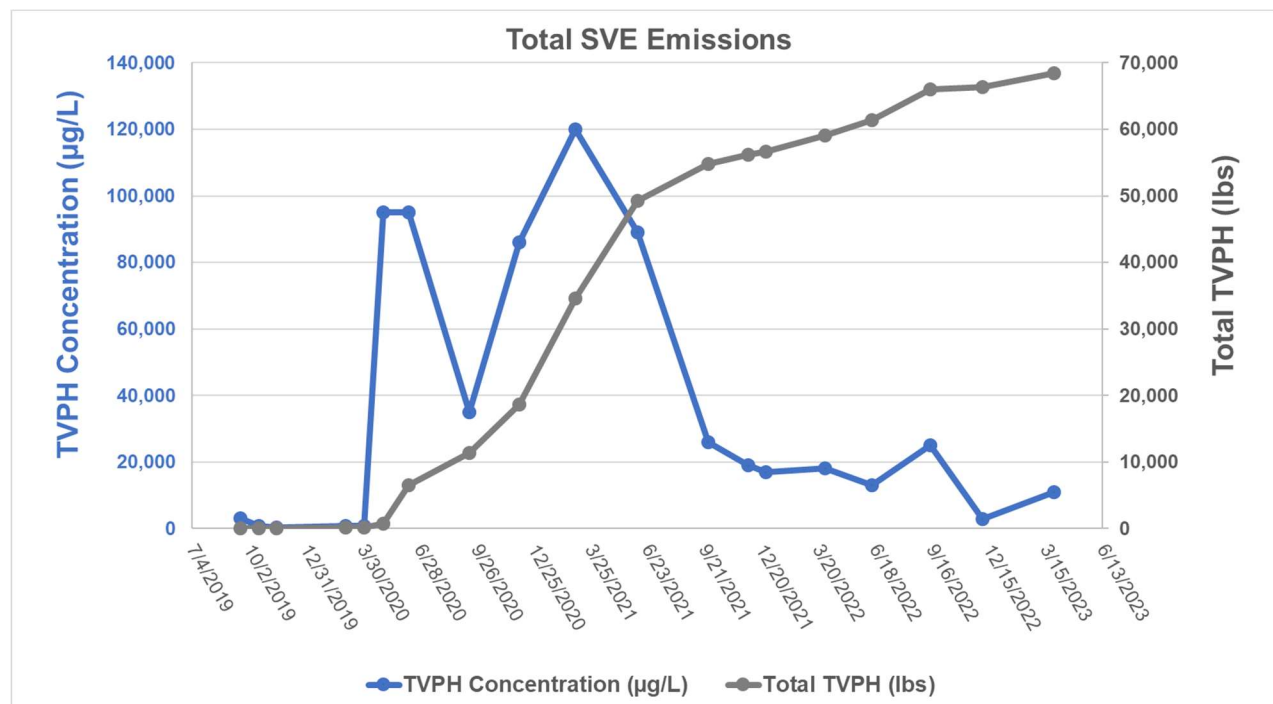
AIR EMISSIONS MONITORING

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, 2023 (Table 1). Samples were collected in 1-Liter Tedlar® bags via a high vacuum air sampler and submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analyses of benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency (EPA) Method 8021B and total volatile petroleum hydrocarbons (TVPH) using EPA Method 8015D. The laboratory analytical report from the March 2023 vapor 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 68,390 pounds (lbs) 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 (µg/L). Since March 2021, mass removal has continued to generally decline, as seen in the graph below.

In February 2023 system operation was adjusted to focus on SVE03, SVE05, and SVE06. Operation on these three wells continued through March 2023.

Harvest Four Corners, LLC
Trunk L Tank Battery



The March 2023 TVPH emissions rate increased to approximately 1.73 pounds per hour (lbs/hr) or approximately 17.3 pounds per average nominal day light hours per day that the system is expected to be operational, indicating that 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 2023 operations, Ensolum will continue to visit the Site monthly to ensure a minimum of 90% runtime efficiency continues and that any maintenance issues are addressed in a timely manner. An air sample will be collected in the second quarter and analyzed for BTEX by EPA Method 8021 and TVPH by EPA Method 8015. An updated quarterly report with sample results, runtime, and mass source removal will be submitted by July 31, 2023.

Quarterly air sampling and reporting will continue until the mass removal rate declines to an asymptotic level and indicates that 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 standards as detailed in the approved *Remediation Work Plan* dated May 28, 2019.

If the final delineation samples indicate hydrocarbon impact has been reduced to below NMAC 19.15.29.12 Table 1 Closure Criteria, Ensolum will present the confirmation laboratory analysis data in a report and request closure of the release. Should the results indicate that analytes in the soil exceed the Table 1 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.

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 dburns@ensolum.com or Jennifer Deal at (505) 324-5128 or at ideal@harvestmidstream.com.

Harvest Four Corners, LLC
Trunk L Tank Battery

Sincerely,

ENSOLUM, LLC



Reece Hanson
Staff Geologist



Danny Burns
Senior Geologist

APPENDICES

Figure 1 – Site Location Map

Figure 2 – SVE System Layout

Table 1 – Soil Vapor Extraction System Emissions Analytical Results

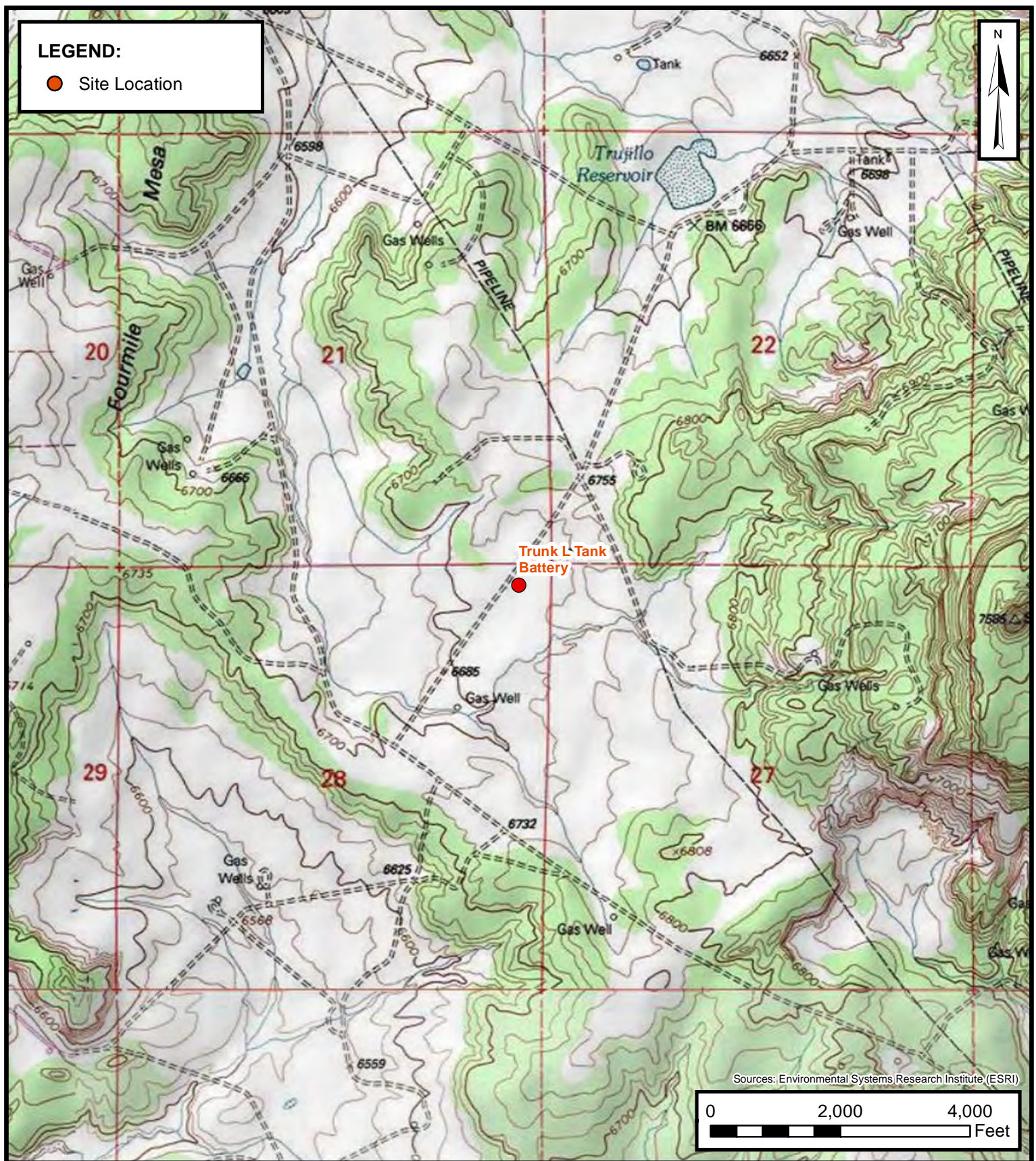
Table 2 – Soil Vapor Extraction System Mass Removal and Emissions

Appendix A – Photographic Log

Appendix B – Laboratory Analytical Report



Figures



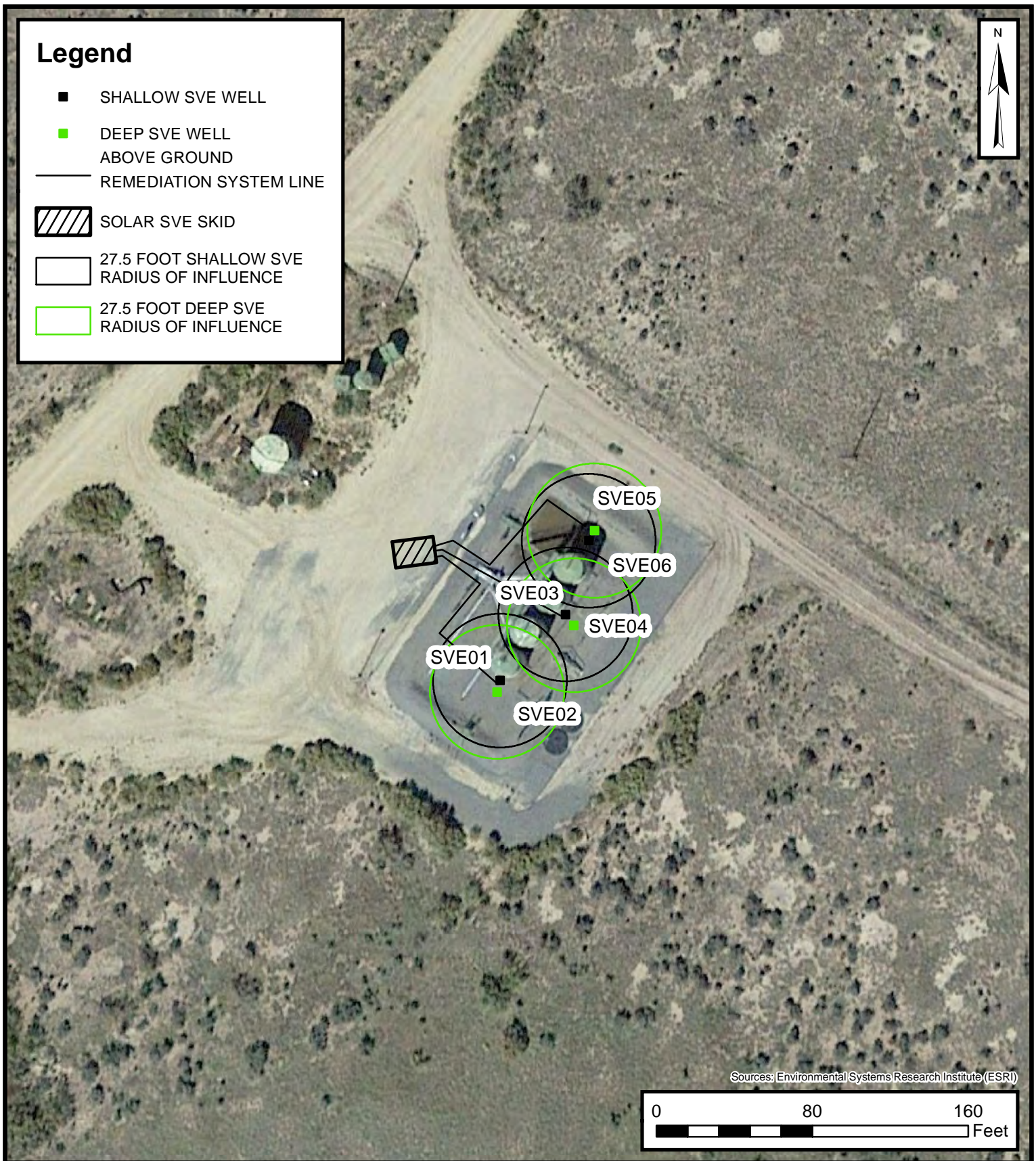
Environmental & Hydrogeologic Consultants

SITE LOCATION MAP

TRUNK L TANK BATTERY
NENE SEC 28 T28N R5W
RIO ARriba COUNTY, NEW MEXICO
HARVEST FOUR CORNERS, LLC

FIGURE

1



SVE SYSTEM LAYOUT

TRUNK L TANK BATTERY
NENE SEC 28 T28N R5W
RIO ARRIBA COUNTY, NEW MEXICO
HARVEST FOUR CORNERS, LLC

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

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



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	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
Average	1,248	232	619	22	216	34,600

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
Average				0.03	0.08	0.003	0.03	4.45



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
Total Mass Recovery to Date			300.6	1,006.9	38.1	355.8	68,389.6	34.2

Notes:

* - TVPH data extrapolated from PID values

** - Analytical data extrapolated from PID values

BTEX - benzene, toluene, ethylbenzene, total xylenes

cf - cubic feet

cfm - cubic feet per minute

lbs - pounds

lb/hr - pounds per hour

µg/L - microgram per liter

PID - photoionization detector

ppm - parts per million

TVPH - total volatile petroleum hydrocarbons

VOC - volatile organic compounds

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)

Italics denote that the laboratory method detection limit was used for calculations for a non-detected result



APPENDIX A

Photographic Log



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

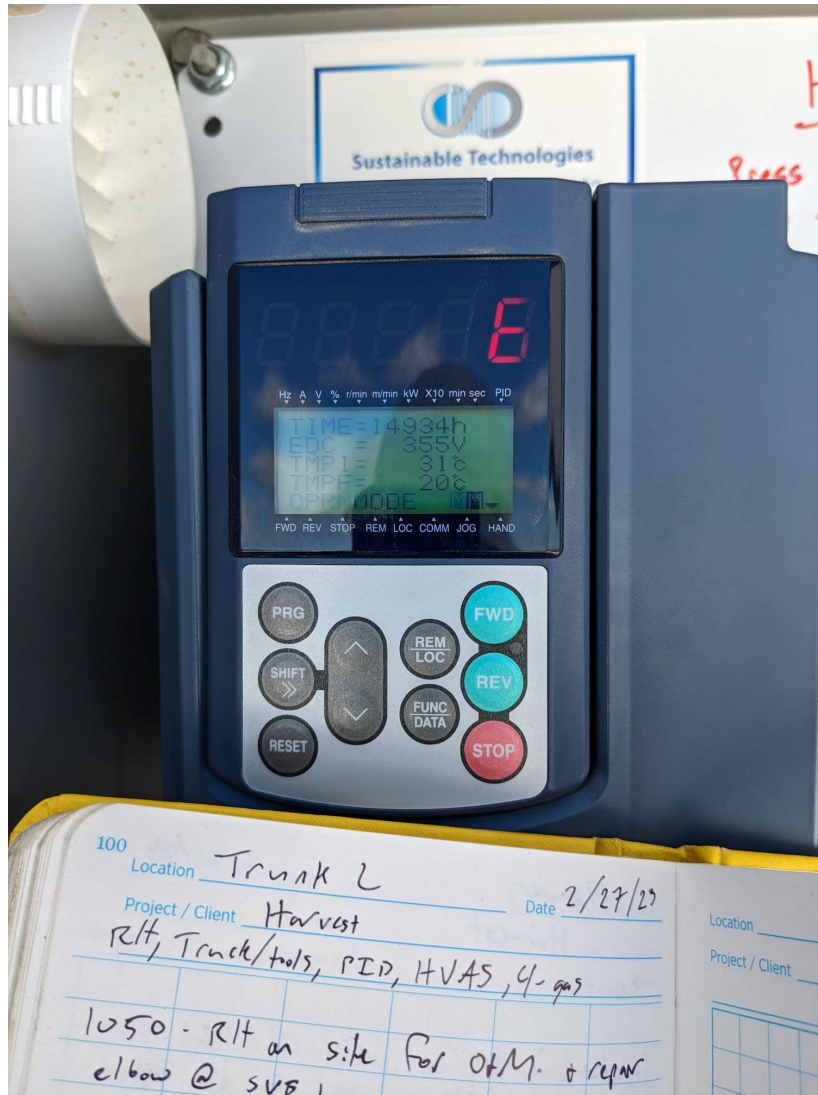
Photo #1
SVE Hours Reading 1/26/2023





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

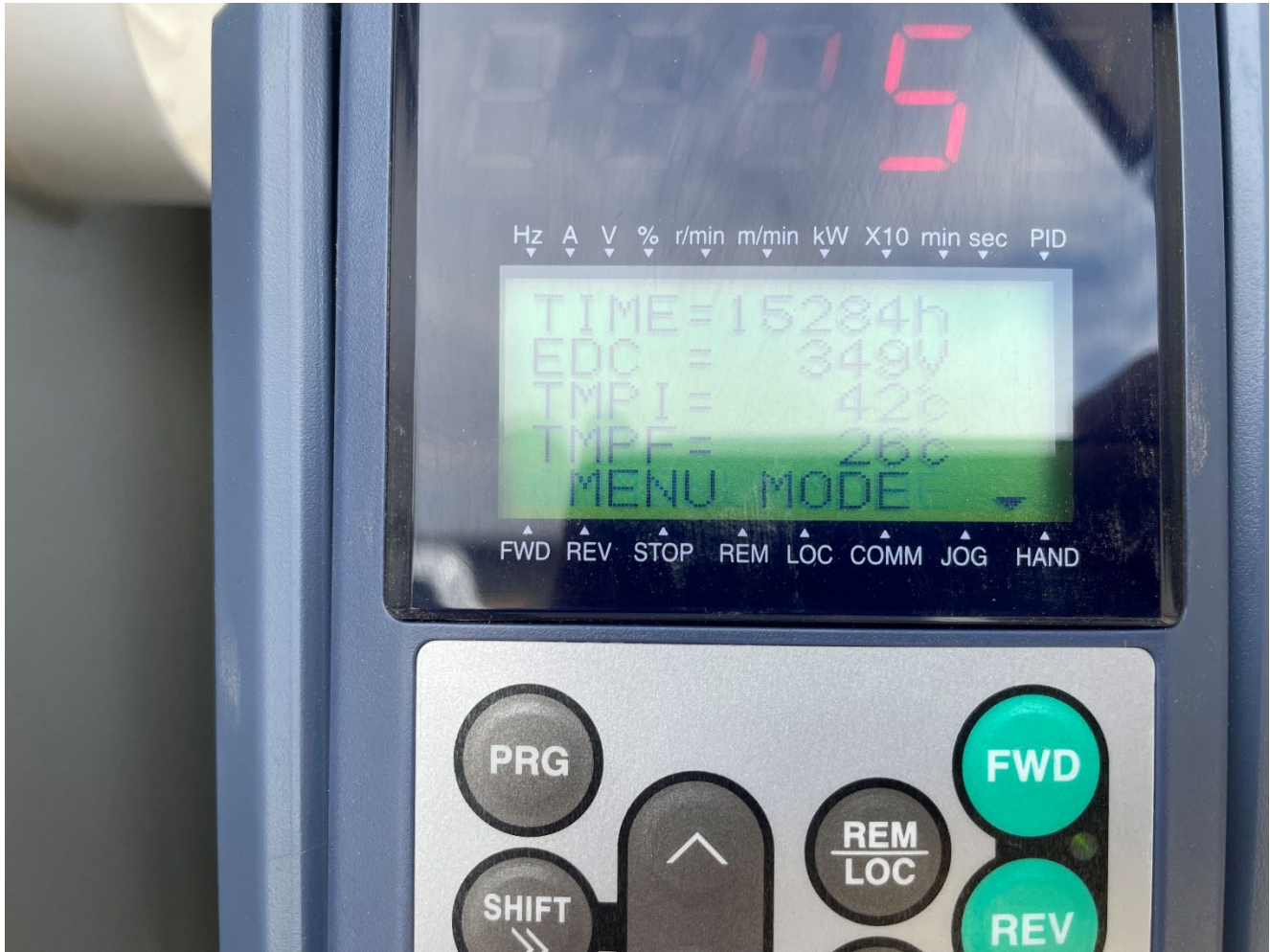
Photo #1
 SVE Hours Reading 2/27/2023





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

Photo #1
SVE Hours Reading 3/28/2023





APPENDIX B

Laboratory Analytical Report



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 18, 2023

Danny Burns

Harvest

1755 Arroyo Dr.

Bloomfield, NM 87413

TEL: (505) 632-4475

FAX:

RE: Trunk L

OrderNo.: 2303F35

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/31/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2303F35

Date Reported: 4/18/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Client Sample ID: Influent 3-28

Project: Trunk L

Collection Date: 3/28/2023 2:00:00 PM

Lab ID: 2303F35-001

Matrix: AIR

Received Date: 3/31/2023 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JJP
Gasoline Range Organics (GRO)	11000	250		µg/L	50	3/31/2023 1:46:26 PM	GA95705
Surr: BFB	132	15-380		%Rec	50	3/31/2023 1:46:26 PM	GA95705
EPA METHOD 8021B: VOLATILES							Analyst: JJP
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	50	3/31/2023 1:46:26 PM	BA95705
Benzene	27	5.0		µg/L	50	3/31/2023 1:46:26 PM	BA95705
Toluene	89	5.0		µg/L	50	3/31/2023 1:46:26 PM	BA95705
Ethylbenzene	5.8	5.0		µg/L	50	3/31/2023 1:46:26 PM	BA95705
Xylenes, Total	57	10		µg/L	50	3/31/2023 1:46:26 PM	BA95705
Surr: 4-Bromofluorobenzene	90.9	70-130		%Rec	50	3/31/2023 1:46:26 PM	BA95705

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Page 1 of 1



ANALYTICAL SUMMARY REPORT

April 17, 2023

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23040191 Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 4/4/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23040191-001	2303F35-001B, Influent 3-28	03/28/23 14:00	04/04/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond./1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Lab ID: B23040191-001
Client Sample ID: 2303F35-001B, Influent 3-28

Report Date: 04/17/23
Collection Date: 03/28/23 14:00
Date Received: 04/04/23
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	19.38	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Nitrogen	78.49	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Carbon Dioxide	1.75	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Methane	0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Ethane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Propane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Hexanes plus	0.37	Mol %		0.01		GPA 2261-95	04/05/23 10:10 / ikc
Propane	< 0.001	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
Hexanes plus	0.156	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
GPM Total	0.156	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc
GPM Pentanes plus	0.156	gpm		0.001		GPA 2261-95	04/05/23 10:10 / ikc

CALCULATED PROPERTIES

Gross BTU per cu ft @ Std Cond. (HHV)	18		1		GPA 2261-95	04/05/23 10:10 / ikc
Net BTU per cu ft @ std cond. (LHV)	16		1		GPA 2261-95	04/05/23 10:10 / ikc
Pseudo-critical Pressure, psia	549		1		GPA 2261-95	04/05/23 10:10 / ikc
Pseudo-critical Temperature, deg R	246		1		GPA 2261-95	04/05/23 10:10 / ikc
Specific Gravity @ 60/60F	1.01		0.001		D3588-81	04/05/23 10:10 / ikc
Air, %	88.57		0.01		GPA 2261-95	04/05/23 10:10 / ikc

- The analysis was not corrected for air contamination.

COMMENTS

-					-	04/05/23 10:10 / ikc
- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior. - GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions. - To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825. - Standard conditions: 60 F & 14.73 psi on a dry basis.						

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B23040191

Report Date: 04/17/23

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95									Batch: R399932	
Lab ID: B23040191-001ADUP 12 Sample Duplicate									Run: GCNGA-B_230405A 04/05/23 10:36	
Oxygen		19.4	Mol %	0.01				0.1	20	
Nitrogen		78.5	Mol %	0.01				0	20	
Carbon Dioxide		1.77	Mol %	0.01				1.1	20	
Hydrogen Sulfide		<0.01	Mol %	0.01					20	
Methane		<0.01	Mol %	0.01					20	
Ethane		<0.01	Mol %	0.01					20	
Propane		<0.01	Mol %	0.01					20	
Isobutane		<0.01	Mol %	0.01					20	
n-Butane		<0.01	Mol %	0.01					20	
Isopentane		<0.01	Mol %	0.01					20	
n-Pentane		<0.01	Mol %	0.01					20	
Hexanes plus		0.39	Mol %	0.01				5.3	20	
Lab ID: LCS040523 11 Laboratory Control Sample									Run: GCNGA-B_230405A 04/05/23 11:34	
Oxygen		0.63	Mol %	0.01	126	70	130			
Nitrogen		6.03	Mol %	0.01	100	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		74.5	Mol %	0.01	100	70	130			
Ethane		6.03	Mol %	0.01	100	70	130			
Propane		5.02	Mol %	0.01	102	70	130			
Isobutane		2.00	Mol %	0.01	100	70	130			
n-Butane		1.99	Mol %	0.01	99	70	130			
Isopentane		1.01	Mol %	0.01	101	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.78	Mol %	0.01	98	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 800.735.4489 • Casper, WY 888.235.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

Work Order Receipt Checklist

Hall Environmental

B23040191

Login completed by: Yvonna E. Smith

Date Received: 4/4/2023

Reviewed by: gmccartney

Received by: tae

Reviewed Date: 4/5/2023

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	10.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRACTOR: Energy Labs -Billings		COMPANY: Energy Laboratories		PHONE: (406) 869-6253	FAX: (406) 252-6069
ADDRESS: 1120 South 27th Street		ACCOUNT #:		EMAIL:	
CITY, STATE, ZIP: Billings, MT 59107					
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE
1	2303F35-001B	Influent 3-28	TEDLAR	Air	3/28/2023 2:00:00 PM
					# CONTAINERS
					1
ANALYTICAL COMMENTS					
1 FIXED GASES, Natural gas analysis. 02 CO2 CO					
B23b40191					

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 3/31/2023	Time: 8:41 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: [Signature]	Date: 4/13/23	Time: 11:15
TAT: Standard <input type="checkbox"/>			RUSH <input type="checkbox"/>		
			Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>		
REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE					
FOR LAB USE ONLY					
Temp of samples _____ °C Attempt to Cool ? _____					
Comments: _____					



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Harvest

Work Order Number: 2303F35

RcptNo: 1

Received By: Tracy Casarrubias 3/31/2023 7:10:00 AM

Completed By: Tracy Casarrubias 3/31/2023 8:34:00 AM

Reviewed By: *CM* 3/31/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☐ No ☐ NA ☒
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
9. Received at least 1 vial with headspace $<1/4"$ for AQ VOA? Yes ☐ No ☐ NA ☒
10. Were any sample containers received broken? Yes ☐ No ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *SC 3/31/23*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good	Yes			

Chain-of-Custody Record

Client: Harvest Fair CornersMailing Address: Jennifer Deal

Phone #:

email or Fax#: eddeal@harvestfaircorners.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)Accreditation: ☐ Az Compliance☐ NELAC ☐ Other☐ EDD (Type)Sampler: Eric CarrollOn Ice: ☒ Yes ☐ No# of Coolers: 1Cooler Temp (including CF): NA (°C)

Container Type and #

Preservative Type

HEAL No.

Date

Time

Sample Name

3-28 1400 Air Influent 3-28

2 Tedlar

2303F35

001

Date:

3-30

1450

Relinquished by:

[Signature]

Time:

1819

Relinquished by:

[Signature]

Time:

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CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

MD 55:35:2 2/20/01/S: gungui of passed
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRACTOR: Energy Labs -Billings		COMPANY: Energy Laboratories		PHONE: (406) 869-6253	FAX: (406) 252-6069		
ADDRESS: 1120 South 27th Street		ACCOUNT #:		EMAIL:			
CITY, STATE, ZIP: Billings, MT 59107							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2303F35-001B	Influent 3-28	TEDLAR	Air	3/28/2023 2:00:00 PM	1	
FIXED GASES, Natural gas analysis. O2 CO2 CO							

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 3/31/2023	Time: 8:41 AM	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples _____ °C Attempt to Cool ? _____ Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT:	Standard <input type="checkbox"/>	RUSH <input type="checkbox"/>	Next BD <input type="checkbox"/>	2nd BD <input type="checkbox"/>	3rd BD <input type="checkbox"/>	

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 211874

CONDITIONS

Operator: Harvest Four Corners, LLC 1755 Arroyo Dr Bloomfield, NM 87413	OGRID: 373888
	Action Number: 211874
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue with "Plan for Next Quarter of Operation" as stated within this report. 2. Submit next quarterly report by July 31, 2023.	5/10/2023