ENSOLUM

REVIEWED
By Nelson Velez at 12:49 pm, Sep 21, 2022

1. Continue with O & M schedule.
2. Submit next quarterly report by October 31, 2022.

July 29, 2022

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

Subject: **2022 Second 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 *2022 Second 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 deep SVE wells, three shallow SVE wells, and a 2.75 horsepower, three-phase blower capable of producing 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 was installed with its own adjustable valve and vacuum gauge on a manifold to control flow and vacuum. Harvest utilized a solar-powered SVE system due to the remote location and the lack of electrical grid power at the site. The blower 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-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 most recent site visit on June 13, 2022, there have been 836 days of operation, with an estimated 11,930 total hours of nominal daylight available for solar SVE system operations. Since installation, the system had an actual runtime of 11,949 hours, for an overall runtime efficiency of 100.2 percent (%). Below is a table showing SVE system runtime in comparison with nominal available daylight hours per month, according to the National Oceanic and Atmospheric Administration's National Weather Service.

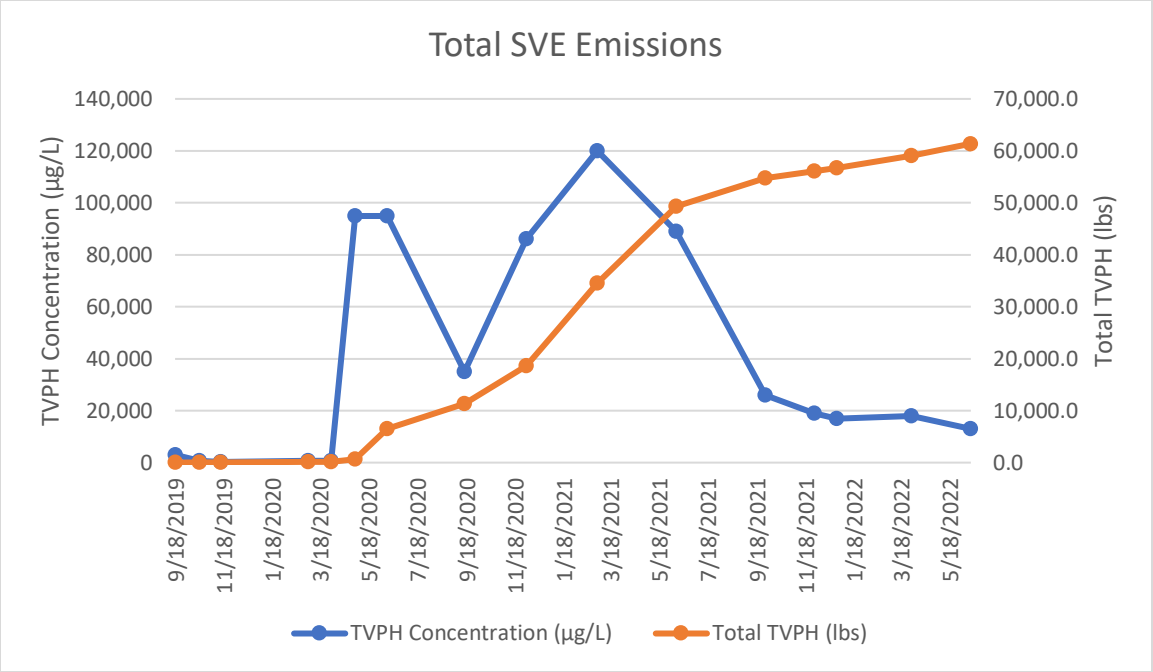
Time Period	Start up on September 18, 2019 to December 27, 2021	April 1, 2022, to April 30, 2022	May 1, 2022, to May 31, 2022	June 1, 2022 to June 13, 2022
Days	836	30	31	12
Avg. Nominal Daylight Hours	12	12	13	14
Available Runtime Hours	10,032	360	403	168
Total Available Daylight Runtime Hours				**11,930**
Actual Runtime Hours				**11,949**
Cumulative % Runtime				**100.2%**
Quarterly Available Daylight Runtime Hours				**931**
Quarterly Runtime Hours				**1,017**
Quarterly % Runtime				**109.2%**

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 with the most recent sample collected June 13, 2022 (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 8021 and total volatile petroleum hydrocarbons (TVPH) using EPA Method 8015. Laboratory analytical reports are included as Appendix A.

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 an estimated 61,363 pounds (lbs) of TVPH. An estimated 9,897 gallons (235 bbls) of air equivalent condensate has been recovered to-date. An increase in TVPH analytical results was observed due to system optimization in May 2020, through focusing system operation on the four SVE wells with the highest photoionization detector measurements. After the reconfiguration in May 2020, there was a peak emission concentration in March 2021 of 120,000 micrograms per liter (µg/L). Since May 2020, the emissions concentrations have continued to steadily decline, as seen in the graph below.

Harvest Four Corners
Trunk L Tank Battery
July 29, 2022



PLAN FOR NEXT QUARTER OF OPERATION

During the upcoming third quarter 2022 operations, visits to the Site will continue monthly by Ensolum personnel to ensure 90% runtime efficiency continues and that any maintenance issues are addressed. An air sample will be collected in the third 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 under separate cover.

Quarterly air sampling and reporting will continue until a decline in volatile organic compounds (VOCs) is observed and indicates that hydrocarbon impacts have been reduced. 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 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 Table Closure Criteria, Ensolum will continue to operate the system and make operational adjustments based on the results of the investigation.

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 jdeal@harvestmidstream.com.

Sincerely,

ENSOLUM, LLC

Eric Carroll
Project Geologist

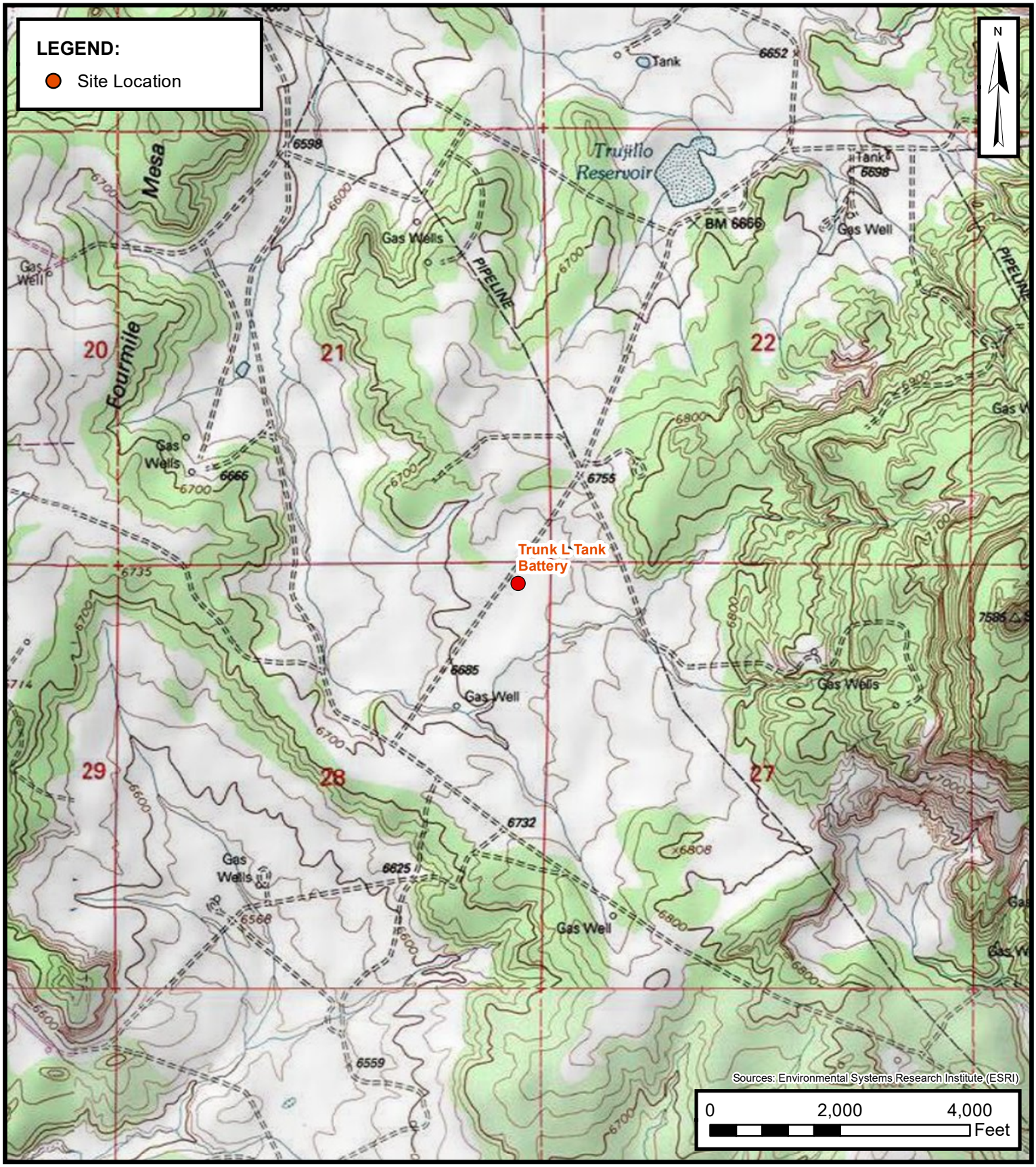
Brooke Herb
Senior Geologist

APPENDICES

Figure 1 – Site Location Map
Figure 2 – SVE System Layout
Table 1 – Air Sample Analytical Results
Table 2 – Soil Vapor System Recovery & Emissions Summary
Appendix A – Laboratory Analytical Report

ENSOLUM

FIGURES

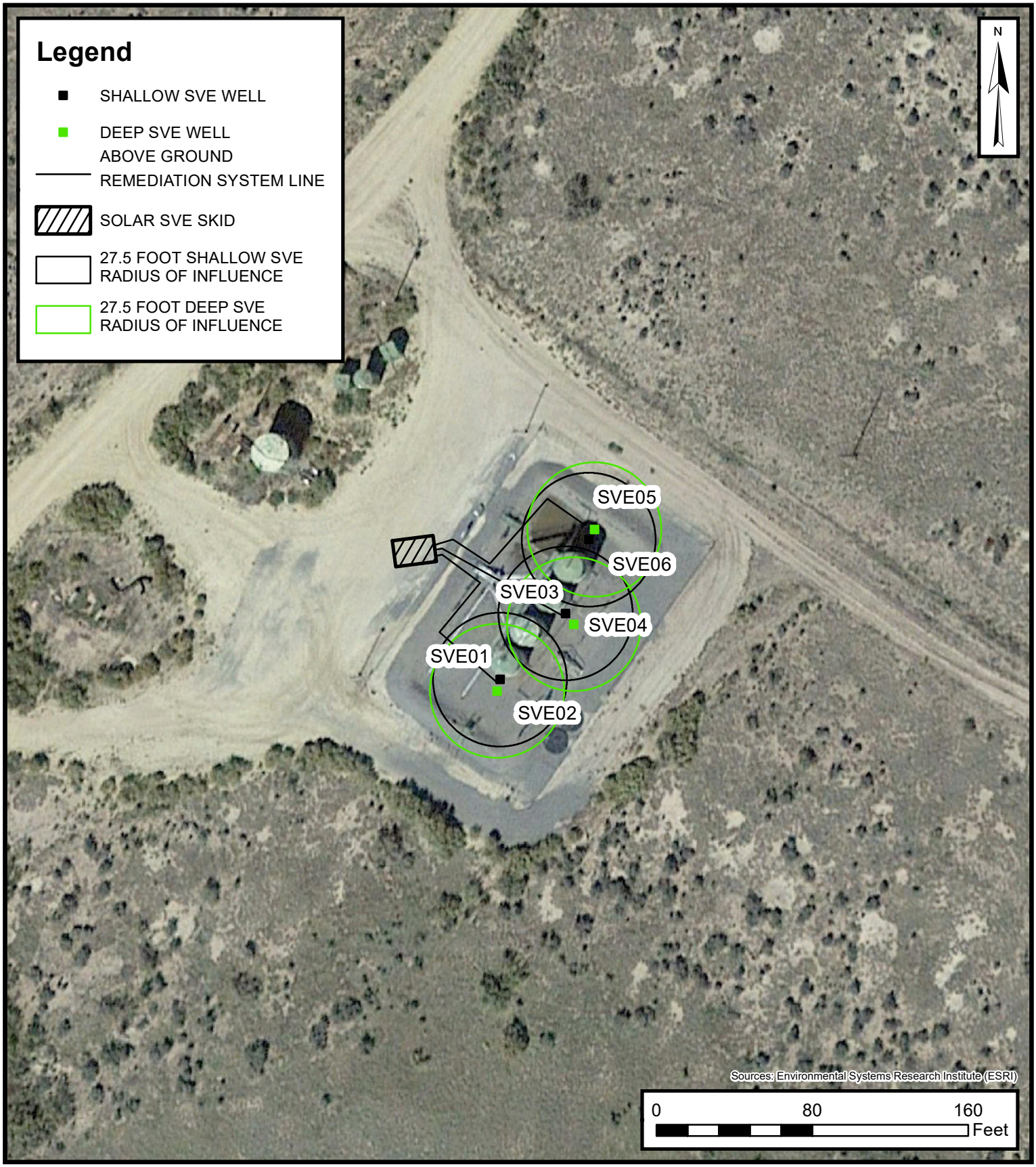


ENSOLUM
Environmental & Hydrogeologic Consultants

SITE LOCATION MAP

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

FIGURE
1



ENSOLUM
Environmental & Hydrogeologic Consultants

SVE SYSTEM LAYOUT

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

FIGURE
2

ENSOLUM

TABLES

ENSOLUM

TABLE 1
SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS
Trunk L Tank Battery
Harvest Midstream Company
Rio Arriba County, New Mexico

Ensolum Project No. 07B2002006

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	--	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

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

--: not sampled

Italics denote that the laboratory method detection limit was reported

ENSOLUM

TABLE 2
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
Trunk L Tank Battery
Harvest Midstream Company
Rio Arriba County, New Mexico

Ensolum Project No. 07B2002006

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
Average	998	269	715	25	251	38,656

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
			Average	0.03	0.09	0.00	0.03	4.93

ENSOLUM

TABLE 2
SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
Trunk L Tank Battery
Harvest Midstream Company
Rio Arriba County, New Mexico

Ensolum Project No. 07B2002006
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
Total Mass Recovery to Date			282.4	952.9	35.6	337.7	61,363.8	30.7

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

SVE - soil vapor extraction

TVPH - total volatile petroleum hydrocarbons

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

ENSOLUM

APPENDIX A

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 23, 2022

Danny Burns

Harvest
1755 Arroyo Dr.
Bloomfield, NM 87413
TEL: (505) 632-4475
FAX:

RE: Trunk L OrderNo.: 2206715

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/14/2022 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2206715**
Date Reported: **6/23/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest
Client Sample ID: Influent 06-13-22
Project: Trunk L
Collection Date: 6/13/2022 3:55:00 PM
Lab ID: 2206715-001 **Matrix:** AIR
Received Date: 6/14/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	13000	250		µg/L	50	6/14/2022 5:50:00 PM	G88708
Surr: BFB	102	70-130		%Rec	50	6/14/2022 5:50:00 PM	G88708
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	65	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Toluene	190	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Ethylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2,4-Trimethylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,3,5-Trimethylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Naphthalene	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
1-Methylnaphthalene	ND	20		µg/L	50	6/14/2022 5:50:00 PM	R88708
2-Methylnaphthalene	ND	20		µg/L	50	6/14/2022 5:50:00 PM	R88708
Acetone	ND	50		µg/L	50	6/14/2022 5:50:00 PM	R88708
Bromobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Bromodichloromethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Bromoform	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Bromomethane	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
2-Butanone	ND	50		µg/L	50	6/14/2022 5:50:00 PM	R88708
Carbon disulfide	ND	50		µg/L	50	6/14/2022 5:50:00 PM	R88708
Carbon tetrachloride	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Chlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Chloroethane	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
Chloroform	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Chloromethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
2-Chlorotoluene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
4-Chlorotoluene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
cis-1,2-DCE	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
cis-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2-Dibromo-3-chloropropane	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
Dibromochloromethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Dibromomethane	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,3-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,4-Dichlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Dichlorodifluoromethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1-Dichloroethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1-Dichloroethene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708

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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2206715**
Date Reported: **6/23/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest
Client Sample ID: Influent 06-13-22
Project: Trunk L
Collection Date: 6/13/2022 3:55:00 PM
Lab ID: 2206715-001 **Matrix:** AIR **Received Date:** 6/14/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
1,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,3-Dichloropropane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
2,2-Dichloropropane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1-Dichloropropene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Hexachlorobutadiene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
2-Hexanone	ND	50		µg/L	50	6/14/2022 5:50:00 PM	R88708
Isopropylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
4-Isopropyltoluene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
4-Methyl-2-pentanone	ND	50		µg/L	50	6/14/2022 5:50:00 PM	R88708
Methylene chloride	ND	15		µg/L	50	6/14/2022 5:50:00 PM	R88708
n-Butylbenzene	ND	15		µg/L	50	6/14/2022 5:50:00 PM	R88708
n-Propylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
sec-Butylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Styrene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
tert-Butylbenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1,2,2-Tetrachloroethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Tetrachloroethene (PCE)	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
trans-1,2-DCE	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
trans-1,3-Dichloropropene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2,3-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2,4-Trichlorobenzene	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1,1-Trichloroethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,1,2-Trichloroethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Trichloroethene (TCE)	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Trichlorofluoromethane	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
1,2,3-Trichloropropane	ND	10		µg/L	50	6/14/2022 5:50:00 PM	R88708
Vinyl chloride	ND	5.0		µg/L	50	6/14/2022 5:50:00 PM	R88708
Xylenes, Total	51	7.5		µg/L	50	6/14/2022 5:50:00 PM	R88708
Surr: Dibromofluoromethane	103	70-130		%Rec	50	6/14/2022 5:50:00 PM	R88708
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%Rec	50	6/14/2022 5:50:00 PM	R88708
Surr: Toluene-d8	107	70-130		%Rec	50	6/14/2022 5:50:00 PM	R88708
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	50	6/14/2022 5:50:00 PM	R88708

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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

ENERGY LABORATORIES
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

ANALYTICAL SUMMARY REPORT

June 23, 2022

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

Work Order: G22060270
Project Name: 2206715

Energy Laboratories Inc. Gillette WY received the following 1 sample for Hall Environmental on 6/15/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G22060270-001	2206715-001B; Influent 06-13-22	06/13/22 15:55	06/15/22	Gas	Air Correction Calculations Analysis Corrections 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., 400 W. Boxelder Rd., Gillette, WY 82718, 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 tests results, please contact your Project Manager.

Report Approved By:

ENERGY LABORATORIES
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

CLIENT: Hall Environmental
Project: 2206715
Work Order: G22060270

Report Date: 06/23/22

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

ENERGY LABORATORIES
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 Gillette, WY Branch

Client:	Hall Environmental		
Project:	2206715	**Report Date:**	06/23/22
Client Sample ID:	2206715-001B; Influent 06-13-22	**Collection Date:**	06/13/22 15:55
Location:		**Date Received:**	06/15/22
Lab ID:	G22060270-001	**Sampled By:**	Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
GAS CHROMATOGRAPHIC ANALYSIS REPORT					
Oxygen	19.94	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Nitrogen	77.97	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Carbon Dioxide	1.57	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Hydrogen Sulfide	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Methane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Ethane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Propane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Isobutane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
n-Butane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Isopentane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
n-Pentane	<0.01	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
Hexanes plus	0.52	Mol %		GPA 2261-	06/17/22 15:30 / eli-b
GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS					
Propane	< 0.001	gpm		GPA 2261-	06/17/22 15:30 / eli-b
Isobutane	< 0.001	gpm		GPA 2261-	06/17/22 15:30 / eli-b
n-Butane	< 0.001	gpm		GPA 2261-	06/17/22 15:30 / eli-b
Isopentane	< 0.001	gpm		GPA 2261-	06/17/22 15:30 / eli-b
n-Pentane	< 0.001	gpm		GPA 2261-	06/17/22 15:30 / eli-b
Hexanes plus	0.219	gpm		GPA 2261-	06/17/22 15:30 / eli-b
GPM Total	0.219	gpm		GPA 2261-	06/17/22 15:30 / eli-b
GPM Pentanes plus	0.219	gpm		GPA 2261-	06/17/22 15:30 / eli-b
CALCULATED PROPERTIES					
Gross BTU per cu ft @ Std Cond. (HHV	25			GPA 2261-	06/17/22 15:30 / eli-b
Net BTU per cu ft @ std cond. (LHV)	23			GPA 2261-	06/17/22 15:30 / eli-b
Pseudo-critical Pressure, psia	549			GPA 2261-	06/17/22 15:30 / eli-b
Pseudo-critical Temperature, deg R	246			GPA 2261-	06/17/22 15:30 / eli-b
PHYSICAL PROPERTIES-CALCULATED					
Specific Gravity @ 60/60F	1.01			D3588-81	06/17/22 15:30 / eli-b
COMMENTS					
-				-	06/17/22 15:30 / eli-b

- 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)

ENERGY LABORATORIES
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

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental **Work Order:** G22060270 **Report Date:** 06/22/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **GPA 2261-95**									Batch: R383365
Lab ID: **LCS061722**	Laboratory Control Sample				Run: GCNGA-B_220617A				06/17/22 15:01
Oxygen	0.59	Mol %	0.01	118	70	130			
Nitrogen	6.02	Mol %	0.01	100	70	130			
Carbon Dioxide	0.99	Mol %	0.01	100	70	130			
Methane	74.5	Mol %	0.01	100	70	130			
Ethane	6.01	Mol %	0.01	100	70	130			
Propane	5.14	Mol %	0.01	104	70	130			
Isobutane	1.98	Mol %	0.01	99	70	130			
n-Butane	1.98	Mol %	0.01	99	70	130			
Isopentane	1.00	Mol %	0.01	100	70	130			
n-Pentane	1.00	Mol %	0.01	100	70	130			
Hexanes plus	0.76	Mol %	0.01	95	70	130			
Lab ID: **G22060270-001ADUP**	Sample Duplicate				Run: GCNGA-B_220617A				06/17/22 16:21
Oxygen	20.0	Mol %	0.01				0.3	20	
Nitrogen	77.8	Mol %	0.01				0.2	20	
Carbon Dioxide	1.57	Mol %	0.01				0.0	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	0.59	Mol %	0.01				13	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

ENERGY LABORATORIES
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

G22060270

Login completed by: Jill S. Jeffress
Date Received: 6/15/2022

Reviewed by: Chantel S. Johnson
Received by: csj

Reviewed Date: 6/17/2022
Carrier name: FedEx

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

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

SUB CONTRATOR:	Energy Labs-Gillette	COMPANY:	Energy Laboratories	PHONE: (866) 686-7175	FAX:
ADDRESS:	400 W Boxelder Rd			ACCOUNT #:	EMAIL:
CITY, STATE, ZIP:	Gillette, WY 82718				

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2206715-001B	Influent 06-13-22	TEDLAR	Air	6/13/2022 3:55:00 PM	1	Natural Gases O2, CO2 *RUSH 5 DAY TAT*

6220600270

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: Sa	Date: 6/14/2022	Time: 9:39 AM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Chantel Johnson	Date: 6/15/2022	Time: 0945
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples N/A °C Attempt to Cool ?
Comments: Fed ex, Custody tape

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 2206715 | RcptNo: 1

Received By: Juan Rojas 6/14/2022 7:05:00 AM

Completed By: Sean Livingston 6/14/2022 9:37:58 AM

Reviewed By: JR 6/14/22

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° 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: KPG 6.14.22

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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	NA	Good				

Chain-of-Custody Record

Client: Harvest
J. Deal
Mailing Address:

Phone #:
email or Fax#:
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
5-day
☒ Standard ☐ Rush
Project Name:
Trunk L
Project #:
Project Manager:
Danny Burns
Sampler: DB
On Ice: ☐ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): N/A (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2206715	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas CO_2 O_2	Full VOCs 8260
6-13	1555	Air	Influent 06-13-22	2-Tedlar	—	001	X	X									X	X

Remarks:
cc: bherb@ensolum.com
ecarroll@ensolum.com

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6-13-22	17:25				6/13/22	1725
6/13/22	1806			courier	6/14/22	7:05

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

PROJECT PHOTOGRAPHS
Trunk L Tank Battery
Rio Arriba County, New Mexico
Harvest Midstream Company

Photograph 1 Runtime meter taken on June 13, 2022 at 15:00 Hours = 11,949	

Ensolum, LLC | Environmental & Hydrogeologic Consultants
Durango, Colorado | info@ensolum.com

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 129946

CONDITIONS

Operator: Harvest Four Corners, LLC 1111 Travis Street Houston, TX 77002	OGRID: 373888
	Action Number: 129946
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	1. Continue with O & M schedule. 2. Submit next quarterly report by October 31, 2022.	9/21/2022