



April 21, 2021

Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos
Aztec, New Mexico 87410

Via electronic mail: cory.smith@state.nm.us

**RE: Q1 2021 Periodic Progress Report
Trunk S Release (January - March 2021)
3RP-1014; Incident #NCS1931842879
Unit I, Section 7, T25N, R3W
Rio Arriba County, New Mexico**

Dear Mr. Smith:

Animas Environmental Services, LLC (AES) has prepared this Q1 2021 Periodic Progress Report for a release which was discovered June 25, 2019, at the Harvest Four Corners (Harvest) Trunk S natural gas pipeline, located in Rio Arriba County, New Mexico. A topographic site location map is included as Figure 1, and an aerial site map is presented on Figure 2. This report covers site activities from to January through March 2021.

1.0 Soil Vapor Extraction (SVE) System

Harvest Midstream purchased a Varisolar Soil Vapor Extraction (SVE) system in late 2019. The SVE system is constructed of 2-inch Schedule 40 PVC above ground conveyance pipe and fittings. Rotometers are installed on each leg of the manifold to accompany dedicated vacuum gauges and sample ports. A combined vapor stream sample port is located between the influent vapor manifold and the moisture separator, upstream of the blower. Additionally, a sample port was installed on the exhaust stack, downstream of the two granular carbon vessels to facilitate monitoring of emissions concentrations. Full time system operation began on July 16, 2020.

2.0 SVE System O&M

Monthly operations and maintenance (O&M) visits were conducted by AES on:

- January 8, 2021
- February 5, 2021
- March 10, 2021

624 E. Comanche St., Farmington, NM 87401
PO Box 8, Farmington NM 87499
505-564-2281
www.animasenvironmental.com

Cory Smith NMOCD
Harvest Trunk S Release (3RP-1014; Incident #1931842879)
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During each visit, AES personnel collected system flow, vacuum, and vapor data and to monitor granular activated carbon (GAC) efficiency. A sample of each vapor stream was collected in a Tedlar bag using a small vacuum pump. Influent and effluent vapor concentrations were measured using a calibrated Mini Rae 3000 organic vapor meter (OVM). Field measurements were recorded onto field SVE data sheets and are recorded in Table 1, along with telemetry data.

Additionally, a quarterly sample of the influent vapor stream was collected on January 8, 2021, for laboratory analysis. Two 1-liter Tedlar bags were collected for analysis for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (USEPA) Method 8260B (full list), gasoline-range organics (GRO) by EPA Method 8015, and oxygen and carbon dioxide by Gas Processors Association (GPA) Method 2261. Laboratory analytical data are included in Table 2, and the laboratory analytical report is attached.

Other maintenance activities include the following:

- GAC changeouts were completed on February 5 and March 10, 2021;
- On February 5, 2021, the conveyance piping to SVE -3 was found to have been shattered by what appeared to be ice falling off the solar array. The SE-3 line was disengaged at the manifold until repairs could be made. AES returned to the site on February 11, 2021 and repaired the line and opened the valve at the manifold; and
- On March 10, 2021, a sample port was installed on the primary GAC vessel to gain additional data on GAC efficiency. Additionally, condensate was drained from the SVE conveyance piping and the moisture separator.

Based on telemetry and field readings and analytical data through March 10, 2021, the following SVE operations summary is presented:

<i>Trunk S Solar SVE System Operations Summary</i>	
<i>Total SVE system operating hours since system startup (hrs)</i>	<i>2891</i>
<i>Most recent event SVE system influent PID-OVM reading (ppm)</i>	<i>433</i>
<i>Most recent event Inlet Vacuum (inH₂o)</i>	<i>-26</i>
<i>Most recent event Actual Flow Rate (acfm)</i>	<i>128</i>

Cory Smith NMOCD
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<i>Trunk S Solar SVE System Operations Summary</i>	
<i>Total cumulative standard volume processed since system startup (ft3)</i>	<i>13,882,530</i>
<i>Total estimated petroleum mass removal since system startup (lbs)</i>	<i>30,382</i>
<i>Estimated lbs removed/std ft3 for current reporting period (lbs/std ft3)</i>	<i>0.0033</i>

Note that standard volume process and estimated mass removal have been recalculated since the last progress report because of telemetry calculation errors. System operating parameters and corrected mass removal estimates are detailed in Table 1, and Graph 1 shows cumulative actual flow through March 10, 2021.

4.0 Ongoing SVE System Monitoring and Sampling

Harvest and AES will maintain SVE runtime greater than or equal to 90 percent per quarter based on available sunlight hours. A soil gas sample for laboratory analysis will be collected quarterly and analyzed for:

- Total petroleum hydrocarbons (TPH) GRO per EPA Method 8015;
- Volatile organics per EPA Method 8260 (full list); and
- Carbon dioxide and oxygen per GPA 2261.

Harvest and AES will submit a quarterly progress report detailing remediation operations to NMOCD. The report will include at a minimum:

- Summary of remediation activity for the quarter;
- SVE run time, SVE operating parameters, and petroleum hydrocarbon mass removal;
- Gas sample analytical data; and
- Documentation of replacement of GAC canisters.

5.0 Schedule

AES will continue to conduct monthly O&M visits, quarterly vapor field and laboratory analytical sampling, and monitoring and replacing GAC drums as needed. Reports will be submitted on a quarterly basis.

Cory Smith NMOCD
Harvest Trunk S Release (3RP-1014; Incident #1931842879)
April 21, 2021; Page 4 of 4

If you have any questions about site conditions, SVE operations, or this report, please do not hesitate to contact Eddie Hubbert or Elizabeth McNally at (505) 564-2281.

Sincerely,



Edward Hubbert
Project Manager



Elizabeth McNally, P.E.

Attachments:

Table 1. SVE Field and Telemetry Operating Parameters
Table 2. Laboratory Analytical Data
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Map with SVE Unit and SVE Well Layout
Graph 1. Estimated Remedial Progress – Mass Removal over Time
Laboratory Analytical Reports –
January 8, 2021 Vapor Sampling (Hall No. 2010744)

Cc:

Monica Smith
Harvest Midstream Company
Electronic Mail: msmith@harvestmidstream.com

TABLE 1
SVE FIELD OPERATING TELEMETRY
PARAMETERS and
MASS REMOVAL
Harvest Trunk S

Date	Operating Days	Operating Hours Reading	Field PID-OVM (ppmv)	Inlet Vacuum (in. Hg)	Telemetry Inlet Vacuum** (in. H ₂ O)	Field Inlet Temp. (°F)	Field Outlet Temp. (°F)	Telemetry Actual Flow Rate (acfm)**	Telemetry Converted to Standard Flow Rate (scfm)	Total Standard Volume (ft ³)	VOCs (GRO) (ug/L)	VOCs (GRO) Removed (lbs/Δt)	lbs removed/std ft ³
16-Jul-20	0	322	4,268	-0.883	-12	NM	NM	120	88	--	200,000	--	--
3-Sep-20	49	963	1,100	-1.177	-16	NM	NM	119	86	3,346,020	54,357	13,247	0.0040
30-Sep-20	76	1,298	1,200	-1.177	-16	NM	153	120	87	1,738,650	59,000	6,135	0.0035
14-Oct-20	90	1,450	1,357	-1.471	-20	NM	NM	122	86	788,880	68,000	3,119	0.0040
23-Nov-20	130	1,847	2,033	-1.250	-17	54	62	124	92	2,119,980	NM	--	--
8-Jan-21	176	2,275	786	-2.060	-28	50	60	131	94	2,388,240	38,000	7,881	0.0033
5-Feb-21	204	2,543	763	-2.133	-29	36	44	129	96	1,527,600	NM	--	--
10-Mar-21	237	2,891	433	-1.912	-26	50	58	128	93	1,973,160	NM	--	--

Notes:

1. PID - photoionization detector; OVM - organic vapor meter
2. ppmv - parts per million by volume (v/v; equivalent to mL/L or mL/m³)

3. acfm - measured cubic feet per minute (volumetric flow, calculated based on flow velocity and pipe diameter)
4. total flow - vapor flow between system readings (ΔT)
5. °F - degrees Fahrenheit
6. Site elevation - 7,140 ft amsl
7. **flow readings from telemetry data
8. NM = not measured

Cumulative Std. Volume

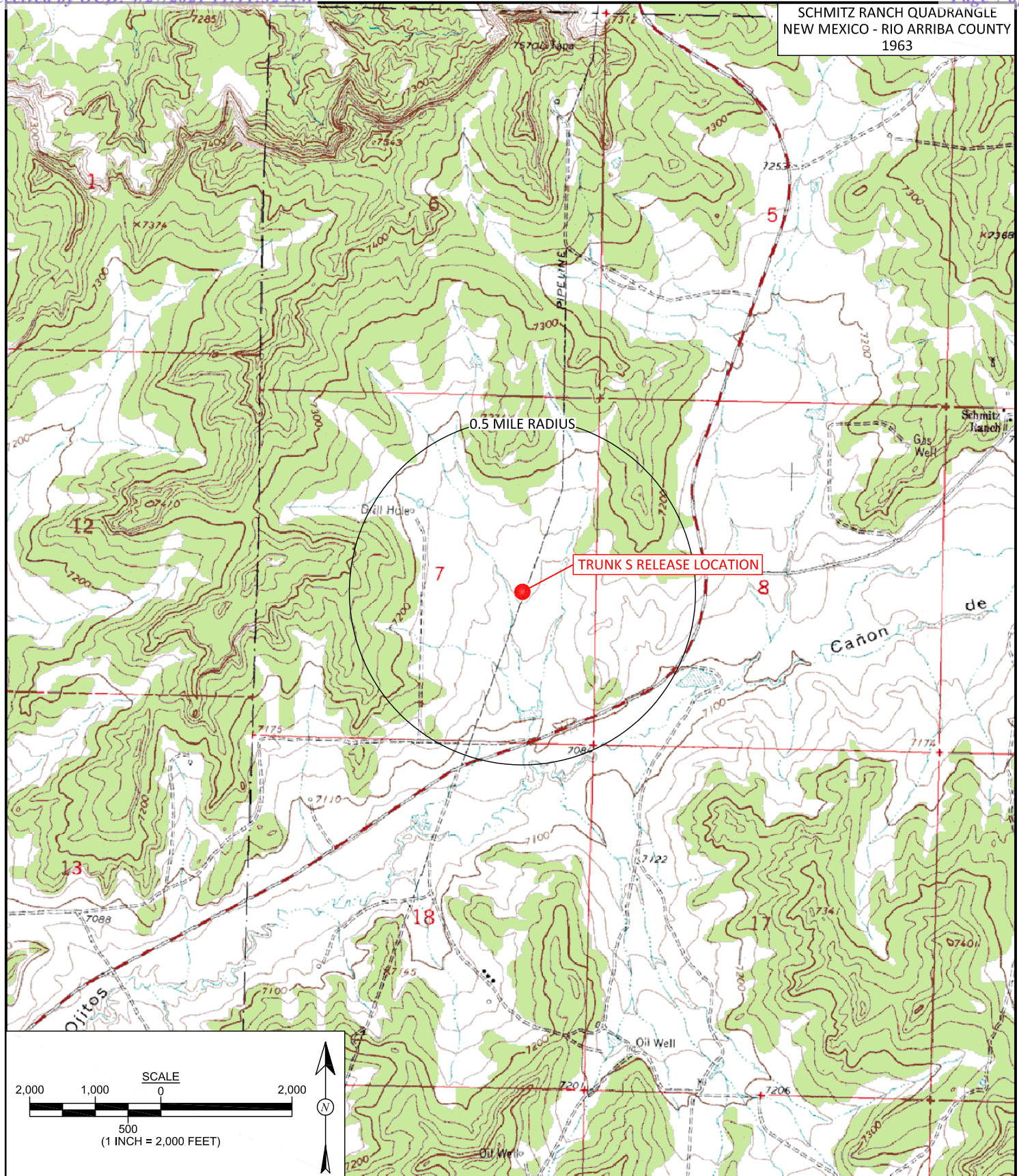
13,882,530

30,382

total lbs removed

TABLE 2
SVE VAPOR LABORATORY ANALYTICAL RESULTS
Harvest Trunk S
Release 3RP-1014, Incident #NCS1931842879

Date	Benzene $\mu\text{g/L}$	Toluene $\mu\text{g/L}$	Ethyl- benzene $\mu\text{g/L}$	Totals Xylenes $\mu\text{g/L}$	GRO $\mu\text{g/L}$	O2 Mol %	CO2 Mol %
16-Jul-20	1700	1570	29.4	518	NS	NS	NS
3-Sep-20	NS	NS	NS	NS	NS	NS	NS
30-Sep-20	NS	NS	NS	NS	NS	NS	NS
14-Oct-20	150	460	15	270	68000	20.94	0.93
23-Nov-20	NS	NS	NS	NS	NS	NS	NS
8-Jan-21	76	310	9.1	150	38000	20.81	0.88



animas
environmental
services

Farmington, NM • Durango, CO
animasenvironmental.com

DRAWN BY:
C. Lameman

DATE DRAWN:
July 22, 2019

REVISIONS BY:
C. Lameman

DATE REVISED:
July 22, 2019

CHECKED BY:
E. McNally

DATE CHECKED:
July 22, 2019

APPROVED BY:
E. McNally

DATE APPROVED:
July 22, 2019

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP
HARVEST MIDSTREAM
TRUNK S RELEASE LOCATION
NE $\frac{1}{4}$ SE $\frac{1}{4}$, SEC. 7, T25N, R3W
RIO ARriba COUNTY, NEW MEXICO
N36.41180, -107.18085

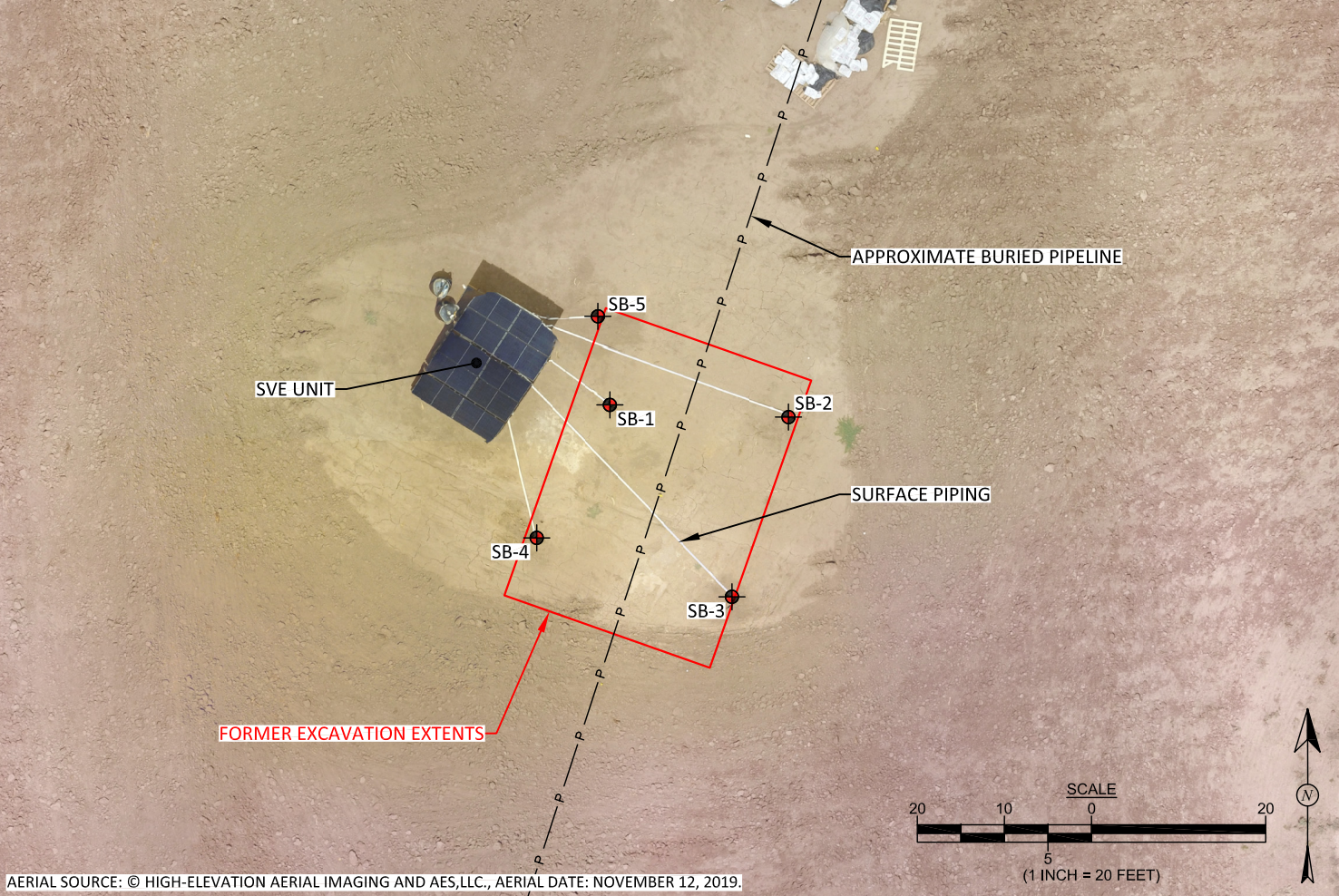
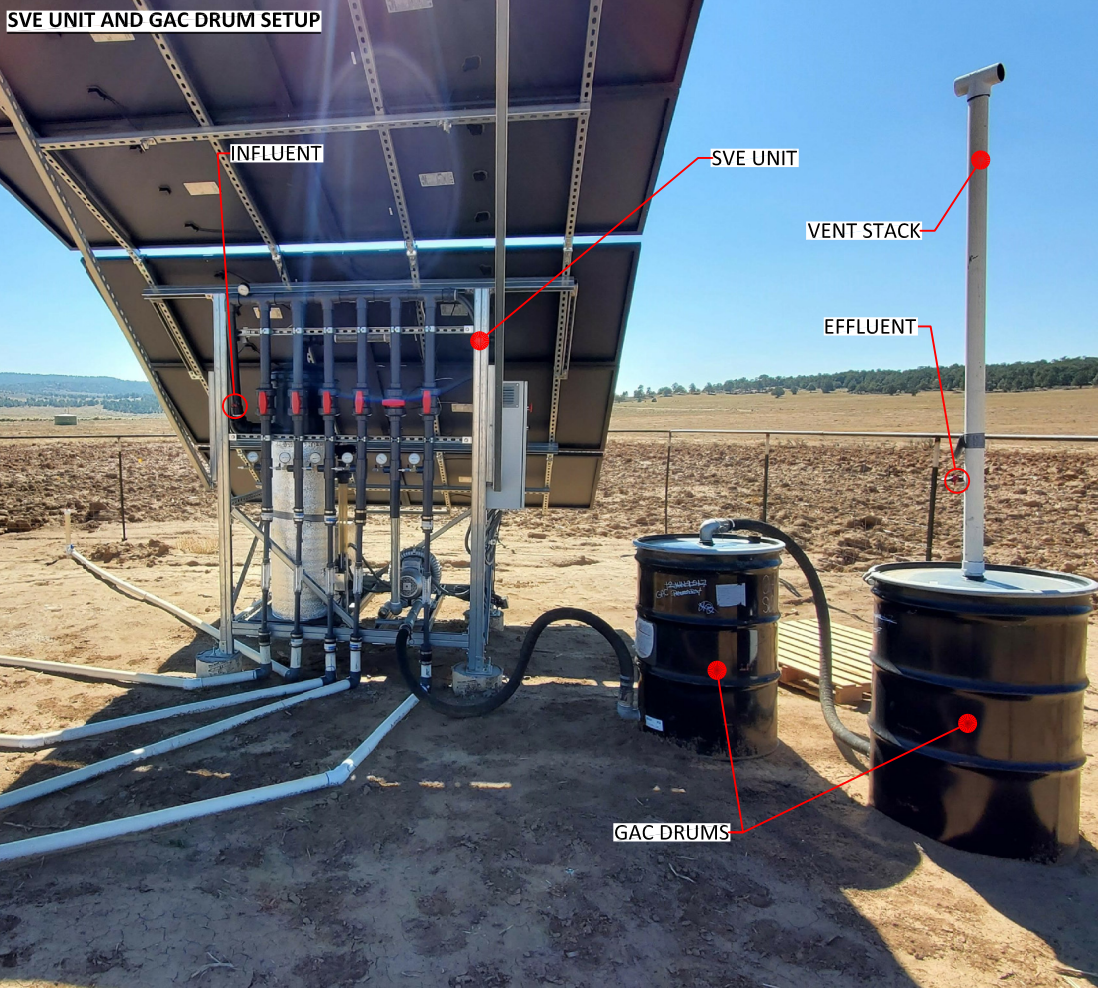


FIGURE 2

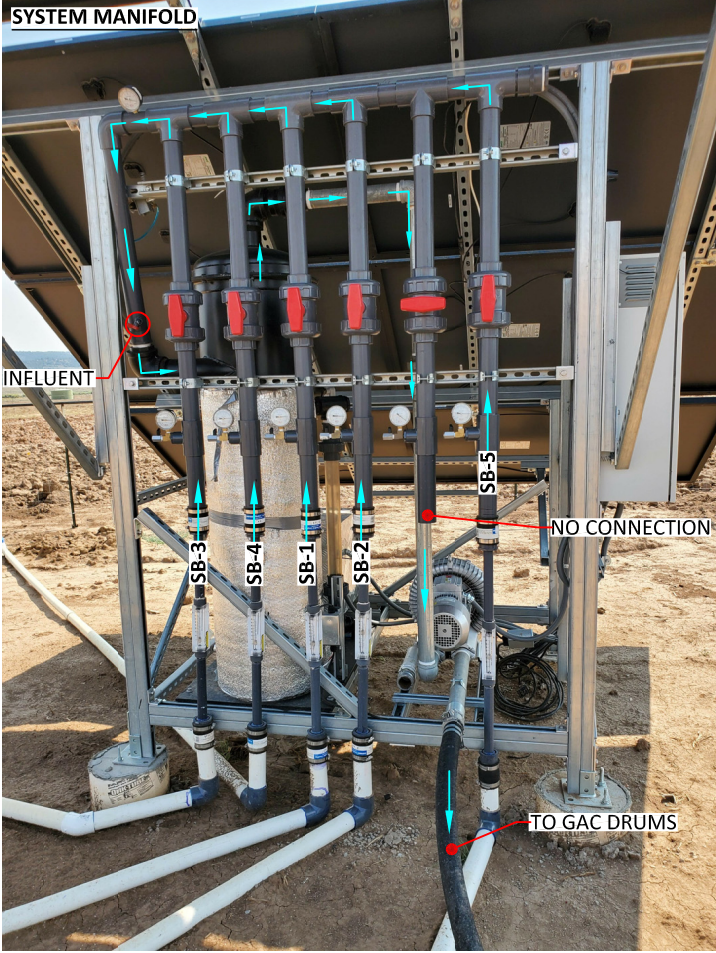
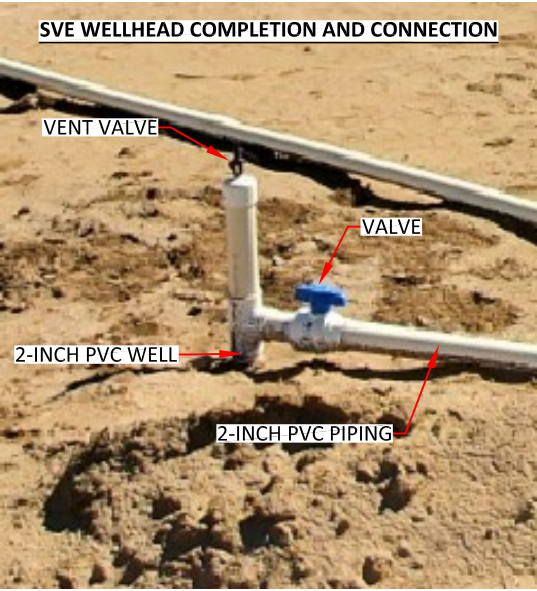
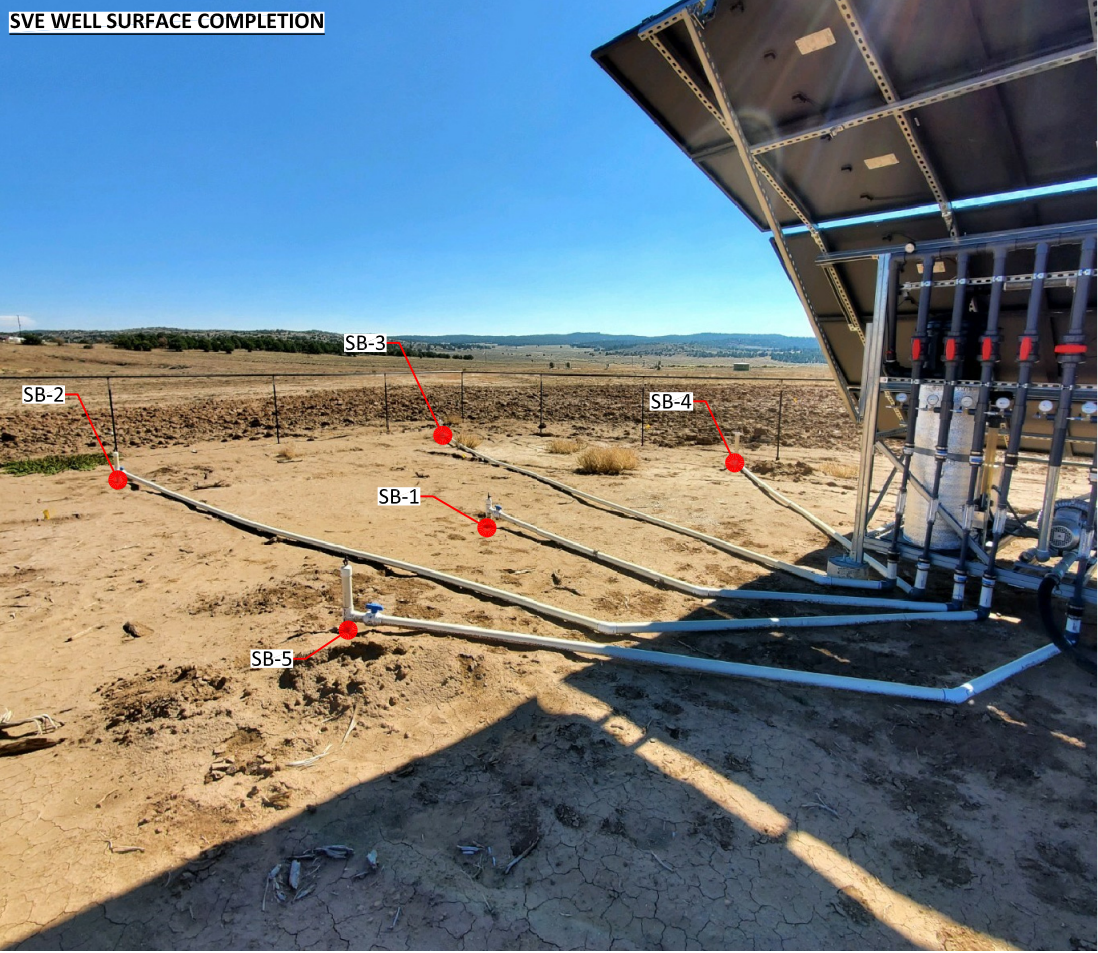
SVE UNIT AND SVE WELL LAYOUT
HARVEST MIDSTREAM
TRUNK S RELEASE LOCATION
INCIDENT NUMBER: NCS1931842879
RELEASE ID: 373888
NE¼ SE¼, SEC. 7, T25N, R3W
RIO ARriba COUNTY, NEW MEXICO
N36.41180, W107.18085



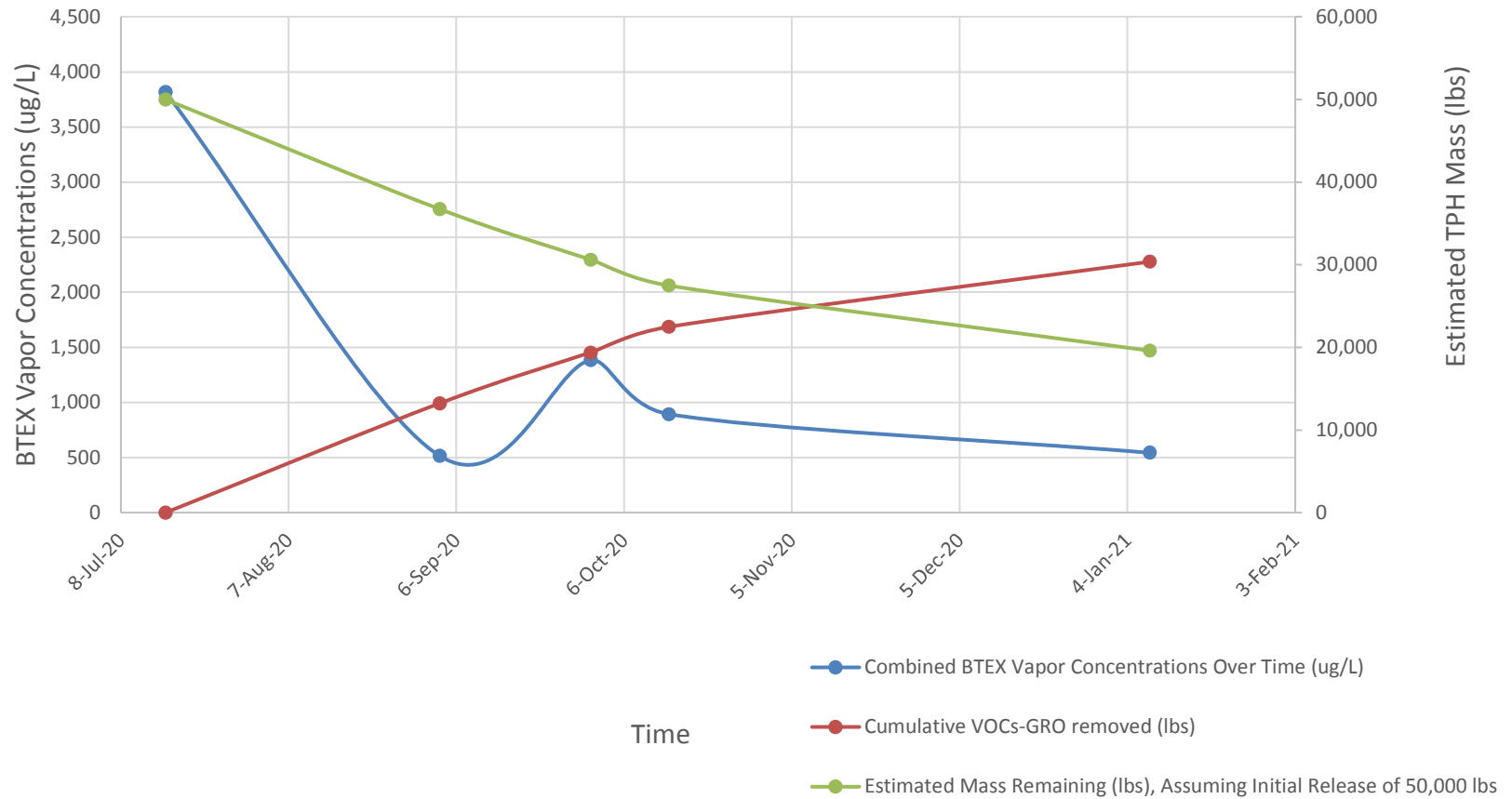
DRAWN BY: C. Lameman	DATE DRAWN: August 3, 2020
REVISIONS BY: C. Lameman	DATE REVISED: October 22, 2020
CHECKED BY: E. McNally	DATE CHECKED: October 22, 2020
APPROVED BY: E. McNally	DATE APPROVED: October 22, 2020

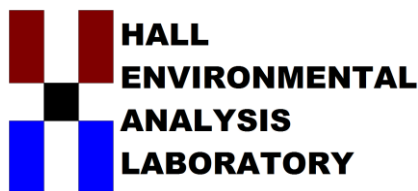
LEGEND

SOIL VAPOR EXTRACTION WELL



Graph 1. Harvest Midstream - Trunk S Release
2020-21 Remediation Progress- Solar SVE Unit





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

January 20, 2021

Eddie Hubbert

Animas Environmental Services
624 E. Comanche
Farmington, NM 87401
TEL: (505) 564-2281
FAX: (505) 324-2022

RE: Trunk S

OrderNo.: 2101332

Dear Eddie Hubbert:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/8/2021 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2101332

Date Reported: 1/20/2021

CLIENT: Animas Environmental Services

Client Sample ID: SVE Influent

Project: Trunk S

Collection Date: 1/8/2021 11:35:00 AM

Lab ID: 2101332-001

Matrix: AIR

Received Date: 1/8/2021 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR
Gasoline Range Organics (GRO)	38000	500		µg/L	100	1/11/2021 1:08:16 PM	D74546
Surr: BFB	87.9	70-130		%Rec	100	1/11/2021 1:08:16 PM	D74546
EPA METHOD 8260B: VOLATILES							Analyst: JMR
Benzene	76	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Toluene	310	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Ethylbenzene	9.1	5.0		µg/L	100	1/11/2021 1:08:16 PM	B74546
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2,4-Trimethylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,3,5-Trimethylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2-Dichloroethane (EDC)	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2-Dibromoethane (EDB)	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Naphthalene	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
1-Methylnaphthalene	ND	40		µg/L	100	1/11/2021 1:08:16 PM	B74546
2-Methylnaphthalene	ND	40		µg/L	100	1/11/2021 1:08:16 PM	B74546
Acetone	ND	100		µg/L	100	1/11/2021 1:08:16 PM	B74546
Bromobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Bromodichloromethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Bromoform	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Bromomethane	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
2-Butanone	ND	100		µg/L	100	1/11/2021 1:08:16 PM	B74546
Carbon disulfide	ND	100		µg/L	100	1/11/2021 1:08:16 PM	B74546
Carbon tetrachloride	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Chlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Chloroethane	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
Chloroform	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Chloromethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
2-Chlorotoluene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
4-Chlorotoluene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
cis-1,2-DCE	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
cis-1,3-Dichloropropene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2-Dibromo-3-chloropropane	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
Dibromochloromethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Dibromomethane	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2-Dichlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,3-Dichlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,4-Dichlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Dichlorodifluoromethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1-Dichloroethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1-Dichloroethene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2101332

Date Reported: 1/20/2021

CLIENT: Animas Environmental Services

Client Sample ID: SVE Influent

Project: Trunk S

Collection Date: 1/8/2021 11:35:00 AM

Lab ID: 2101332-001

Matrix: AIR

Received Date: 1/8/2021 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: JMR
1,2-Dichloropropane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,3-Dichloropropane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
2,2-Dichloropropane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1-Dichloropropene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Hexachlorobutadiene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
2-Hexanone	ND	100		µg/L	100	1/11/2021 1:08:16 PM	B74546
Isopropylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
4-Isopropyltoluene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
4-Methyl-2-pentanone	ND	100		µg/L	100	1/11/2021 1:08:16 PM	B74546
Methylene chloride	ND	30		µg/L	100	1/11/2021 1:08:16 PM	B74546
n-Butylbenzene	ND	30		µg/L	100	1/11/2021 1:08:16 PM	B74546
n-Propylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
sec-Butylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Styrene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
tert-Butylbenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1,1,2-Tetrachloroethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1,2,2-Tetrachloroethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Tetrachloroethene (PCE)	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
trans-1,2-DCE	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
trans-1,3-Dichloropropene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2,3-Trichlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2,4-Trichlorobenzene	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1,1-Trichloroethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,1,2-Trichloroethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Trichloroethene (TCE)	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Trichlorofluoromethane	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
1,2,3-Trichloropropane	ND	20		µg/L	100	1/11/2021 1:08:16 PM	B74546
Vinyl chloride	ND	10		µg/L	100	1/11/2021 1:08:16 PM	B74546
Xylenes, Total	150	15		µg/L	100	1/11/2021 1:08:16 PM	B74546
Surr: Dibromofluoromethane	58.2	70-130	S	%Rec	100	1/11/2021 1:08:16 PM	B74546
Surr: 1,2-Dichloroethane-d4	60.9	70-130	S	%Rec	100	1/11/2021 1:08:16 PM	B74546
Surr: Toluene-d8	109	70-130		%Rec	100	1/11/2021 1:08:16 PM	B74546
Surr: 4-Bromofluorobenzene	113	70-130		%Rec	100	1/11/2021 1:08:16 PM	B74546

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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ANALYTICAL SUMMARY REPORT

January 20, 2021

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

Work Order: B21010686

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 1/12/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B21010686-001	2101332-001B, SVE Influent	01/08/21 11:35	01/12/21	Air	Natural Gas Analysis

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 Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative. 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.comBillings, 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: B21010686-001
Client Sample ID: 2101332-001B, SVE Influent

Report Date: 01/20/21
Collection Date: 01/08/21 11:35
Date Received: 01/12/21
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	20.81	Mol %		0.01		GPA 2261-95	01/15/21 10:33 / jrj
Carbon Dioxide	0.88	Mol %		0.01		GPA 2261-95	01/15/21 10:33 / jrj

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

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



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

Billings, MT 800.735.4489 • Casper, WY 888.233.0515
Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B21010686

Report Date: 01/20/21

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95									Batch: R354925	
Lab ID: B21010686-001ADUP 2 Sample Duplicate									Run: GCNGA-B_210115A 01/15/21 11:04	
Oxygen		20.8	Mol %	0.01				0.0	20	
Carbon Dioxide		0.89	Mol %	0.01				1.1	20	
Lab ID: LCS011521 2 Laboratory Control Sample									Run: GCNGA-B_210115A 01/15/21 14:21	
Oxygen		0.59	Mol %	0.01	118	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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Work Order Receipt Checklist

Hall Environmental

B21010686

Login completed by: Richard L. Shular

Date Received: 1/12/2021

Reviewed by: BL2000\gmccartney

Received by: tae

Reviewed Date: 1/13/2021

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:	13.9°C No Ice		
Water - VOA vials have zero headspace?	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.

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None



CHAIN OF CUSTODY RECORD

PAGE _____ OF _____

Hall Environmental Industries Laboratory
 4001 Highway NE
 Albuquerque NM 87109
 TEL 505 343 3975
 FAX 505 343 4107
 Website: clients.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	2101332-001B	SVE Influent		TEDLAR	Air	1/8/2021 11:35:00 AM	1	Fixed Gases-O ₂ and CO ₂	831010/8/2021

100-9890101251

TEDLAR	Air	1/8/2021 11:35:00 AM	1	Fixed Gases-O2 and CO2
--------	-----	----------------------	---	------------------------

1	2101332-001B	SVE Influent
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SPECIAL INSTRUCTIONS: COMMENTS:

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

Requisitioned By	EM	Date	1/8/2021	Time	3:27 PM	Received By		Date		Time		REPORT TRANSMITTAL DESIRLED HARD COPY EXTRA COST FAX EMAIL ONLINE FOR LAB USE ONLY Temp of samples Temp Attempts to Cool Comments
Requisitioned By		Date		Time		Received By		Date		Time		
Requisitioned By		Date		Time		Received By		Date		Time		
	TAI	Standard			RUSH	New BD		Old BD		Old BD		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101332

20-Jan-21

Client: Animas Environmental Services

Project: Trunk S

Sample ID: 2101332-001a dup		SampType: DUP		TestCode: EPA Method 8260B: Volatiles						
Client ID: SVE Influent		Batch ID: B74546		RunNo: 74546						
Prep Date:		Analysis Date: 1/11/2021		SeqNo: 2631553		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	76	10						0.786	20	
Toluene	330	10						4.87	20	
Ethylbenzene	11	10						16.5	20	
Methyl tert-butyl ether (MTBE)	ND	10						0	20	
1,2,4-Trimethylbenzene	ND	10						0	20	
1,3,5-Trimethylbenzene	ND	10						0	20	
1,2-Dichloroethane (EDC)	ND	10						0	20	
1,2-Dibromoethane (EDB)	ND	10						0	20	
Naphthalene	ND	20						0	20	
1-Methylnaphthalene	ND	40						0	20	
2-Methylnaphthalene	ND	40						0	20	
Acetone	ND	100						0	20	
Bromobenzene	ND	10						0	20	
Bromodichloromethane	ND	10						0	20	
Bromoform	ND	10						0	20	
Bromomethane	ND	20						0	20	
2-Butanone	ND	100						0	20	
Carbon disulfide	ND	100						0	20	
Carbon tetrachloride	ND	10						0	20	
Chlorobenzene	ND	10						0	20	
Chloroethane	ND	20						0	20	
Chloroform	ND	10						0	20	
Chloromethane	ND	10						0	20	
2-Chlorotoluene	ND	10						0	20	
4-Chlorotoluene	ND	10						0	20	
cis-1,2-DCE	ND	10						0	20	
cis-1,3-Dichloropropene	ND	10						0	20	
1,2-Dibromo-3-chloropropane	ND	20						0	20	
Dibromochloromethane	ND	10						0	20	
Dibromomethane	ND	20						0	20	
1,2-Dichlorobenzene	ND	10						0	20	
1,3-Dichlorobenzene	ND	10						0	20	
1,4-Dichlorobenzene	ND	10						0	20	
Dichlorodifluoromethane	ND	10						0	20	
1,1-Dichloroethane	ND	10						0	20	
1,1-Dichloroethene	ND	10						0	20	
1,2-Dichloropropane	ND	10						0	20	
1,3-Dichloropropane	ND	10						0	20	
2,2-Dichloropropane	ND	10						0	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 3 of 5

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2101332

20-Jan-21

Client: Animas Environmental Services**Project:** Trunk S

Sample ID: 2101332-001a dup		SampType: DUP		TestCode: EPA Method 8260B: Volatiles						
Client ID: SVE Influent		Batch ID: B74546		RunNo: 74546						
Prep Date:		Analysis Date: 1/11/2021		SeqNo: 2631553		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	10						0	20	
Hexachlorobutadiene	ND	10						0	20	
2-Hexanone	ND	100						0	20	
Isopropylbenzene	ND	10						0	20	
4-Isopropyltoluene	ND	10						0	20	
4-Methyl-2-pentanone	ND	100						0	20	
Methylene chloride	ND	30						0	20	
n-Butylbenzene	ND	30						0	20	
n-Propylbenzene	ND	10						0	20	
sec-Butylbenzene	ND	10						0	20	
Styrene	ND	10						0	20	
tert-Butylbenzene	ND	10						0	20	
1,1,1,2-Tetrachloroethane	ND	10						0	20	
1,1,2,2-Tetrachloroethane	ND	10						0	20	
Tetrachloroethene (PCE)	ND	10						0	20	
trans-1,2-DCE	ND	10						0	20	
trans-1,3-Dichloropropene	ND	10						0	20	
1,2,3-Trichlorobenzene	ND	10						0	20	
1,2,4-Trichlorobenzene	ND	10						0	20	
1,1,1-Trichloroethane	ND	10						0	20	
1,1,2-Trichloroethane	ND	10						0	20	
Trichloroethene (TCE)	ND	10						0	20	
Trichlorofluoromethane	ND	10						0	20	
1,2,3-Trichloropropane	ND	20						0	20	
Vinyl chloride	ND	10						0	20	
Xylenes, Total	160	15						10.6	20	
Surr: Dibromofluoromethane	57		100.0		57.5	70	130	0	0	S
Surr: 1,2-Dichloroethane-d4	57		100.0		57.5	70	130	0	0	S
Surr: Toluene-d8	110		100.0		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	100		100.0		104	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2101332

20-Jan-21

Client: Animas Environmental Services

Project: Trunk S

Sample ID: 2101332-001a dup		SampType: DUP		TestCode: EPA Method 8015D: Gasoline Range						
Client ID: SVE Influent		Batch ID: D74546		RunNo: 74546						
Prep Date:		Analysis Date: 1/11/2021		SeqNo: 2631588		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	41000	500						7.45	20	
Surr: BFB	86000		100000		85.9	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

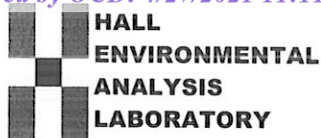
E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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

Sample Log-In Check List

Client Name: **Animas Environmental Services**

Work Order Number: **2101332**

RcptNo: 1

Received By: **Juan Rojas**

1/8/2021 3:15:00 PM

[Signature]

Completed By: **Emily Mocho**

1/8/2021 3:23:27 PM

Reviewed By: *[Signature]* 1-8-21

Chain of Custody

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

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: *JR 1/8/21*

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

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 25815

CONDITIONS

Operator: Harvest Four Corners, LLC 1111 Travis Street Houston, TX 77002	OGRID: 373888
	Action Number: 25815
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 129947 for most updated status.	10/18/2022