

RECEIVED

By Mike Buchanan at 11:24 am, Oct 03, 2023

**Mudge A 002
nVF1714348687
30-045-10948
2022 Annual SVE Report with Sampling**

SIMCOE LLC - Mudge A 002

Summary SVE System Monitoring Data

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H ₂ O Drained from drum?	H ₂ O Amt. Drained (Gal.)?	Comments
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6/6/2018	BH-1	26.2	48	NA	YES	NO	NA	Very little air flow from blow exhaust felt physically
6/7/2018	BH-1	1.3	47	50	YES	NO	NA	Same as above (SAA)
6/6/2018	BH-2	30.5	52	NA	YES	NO	NA	SAA
6/7/2018	BH-2	29.2	46	60	YES	NO	NA	SAA
6/6/2018	BH-3	19.3	51	60	YES	NO	NA	SAA
6/7/2018	BH-3	20.5	46	50	YES	NO	NA	SAA
6/6/2018	BH-4	15.3	56	NA	YES	NO	NA	SAA
6/7/2018	BH-4	5.3	46	50	YES	NO	NA	SAA
6/8/2018	BH-2	36.3	46	50	YES	NO	NA	SAA
6/11/2018	BH-3	30.0	46	50	YES	NO	NA	SAA
6/12/2018	BH-2	322	47	50	YES	NO	NA	SAA, collected air sample (BH-2)
6/13/2018	BH-3	179	47	50	YES	NO	NA	Dry drum, SAA (BH-3)
6/19/2018	BH-1	5.8	48	50	YES	NO	NA	SAA
6/27/2018	BH-3	86.4	48	50	YES	NO	NA	SAA
7/5/2018	BH-2	346	48	60	YES	NO	NA	SAA
7/13/2018	BH-4	65.1	48	60	YES	NO	NA	SAA
7/19/2018	BH-1	5.2	48	50	YES	NO	NA	SAA
8/29/2018	BH-2	217	48	50	YES	NO	NA	SAA
9/24/2018	BH-2	148.8	48	50	YES	NO	NA	SAA
10/24/2018	BH-2	430	48	50	YES	NO	NA	SAA
11/16/2018	BH-2	359	48	50	YES	NO	NA	SAA
12/19/2018	BH-2	390	50	50	YES	NO	NA	SAA
1/11/2019	BH-2	305	50	NA	YES	NO	NA	SAA
2/28/2019	BH-2	127	50	50	YES	NO	NA	Water in drum below drain plug
3/18/2019	BH-2	111	50	50	YES	NO	NA	SAA
4/17/2019	BH-2	103.3	48	50	YES	NO	NA	SAA
5/3/2019	BH-2	102.3	50	50	YES	NO	NA	SAA
6/5/2019	BH-2	164	49	50	YES	NO	NA	SAA
6/20/2019	BH-2	164	48	48	YES	NO	NA	Dry drum, collected air sample (BH-2)
7/27/2019	BH-2	179.3	49	50	YES	NO	NA	Dry drum

SIMCOE LLC - Mudge A 002

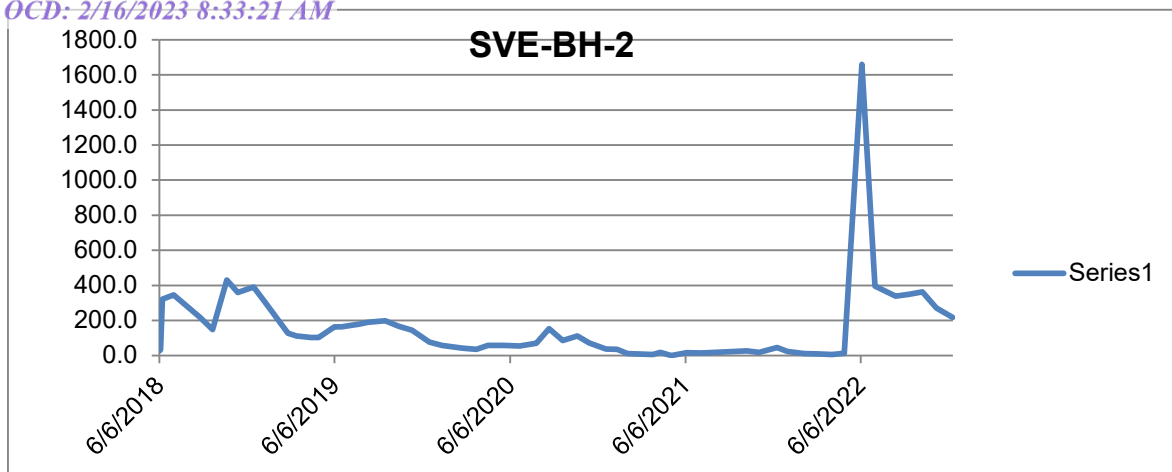
Summary SVE System Monitoring Data

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H ₂ O Drained from drum?	H ₂ O Amt. Drained (Gal.)?	Comments
8/14/2019	BH-2	189	49	50	YES	NO	NA	Dry drum
9/19/2019	BH-2	198	48	60	YES	NO	NA	Dry drum
10/17/2019	BH-2	168	50	50	YES	NO	NA	Dry drum
11/14/2019	BH-2	145	50	50	YES	NO	NA	Dry drum
12/20/2019	BH-2	77.4	50	50	YES	NO	NA	Water in drum below drain plug
1/15/2020	BH-2	57.3	49	50	YES	NO		Water in drum below drain port
2/26/2020	BH-2	42.7	50	50	YES	NO		Water in drum below drain port
3/27/2020	BH-2	35.2	49	50	YES	NO		Water in drum below drain port
4/20/2020	BH-2	57.2	49	50	YES	NO		Dry drum
5/22/2020	BH-2	57.9	49	50	YES	NO		Dry drum
6/25/2020	BH-2	55	49	50	YES	NO		Dry drum
7/30/2020	BH-2	71	48	50	YES	NO		Dry drum
8/25/2020	BH-2	153.4	48	50	YES	NO		Dry drum
9/23/2020	BH-2	86.1	49	50	YES	NO		Dry drum
10/23/2020	BH-2	112	49	60	YES	NO		Dry drum
11/17/2020	BH-2	71.5	50	50	YES	NO		Dry drum
12/22/2020	BH-2	37.3	50	NA	YES	NO		Dry drum
1/14/2021	BH-2	35.2	-	-	YES	NO		
2/5/2021	BH-2	11.09	-	-	YES	NO		
3/29/2021	BH-2	5.26	-	-	YES	NO		
4/14/2021	BH-2	17.82	-	-	YES	NO		
5/7/2021	BH-2	18/6	-	-	YES	NO		
6/8/2021	BH-2	16.08	-	-	YES	NO		
7/9/2021	BH-2	14.7	-	-	YES	NO		
9/29/2021	BH-2	24.9	50	NA	YES	NO		Dry drum
10/11/2021	BH-2	27.5	49	NA	YES	NO		
11/6/2021	BH-2	18.6	50	NA	YES	NO		Water in drum below drain port
12/13/2021	BH-2	45.6	50	NA	YES	NO		Water in drum below drain port
1/4/2022	BH-2	23.2	-52	NA	YES	NO		Water in drum below drain plug
2/8/2022	BH-2	11.9	52	NA	YES	NO		Dry drum
3/7/2022	BH-2	10.3	52	NA	YES	NO		
4/7/2022	BH-2	6.8	-52	NA	YES	NO		No Fluid
5/2/2022	BH-2	12.2	-51	NA	YES	NO		Dry

SIMCOE LLC - Mudge A 002

Summary SVE System Monitoring Data

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H ₂ O Drained from drum?	H ₂ O Amt. Drained (Gal.)?	Comments
6/8/2022	BH-2	1660	-50	NA	YES	NO		Dry
7/5/2022	BH-2	396.8	-51	NA	YES	NO		Dry
8/17/2022	BH-2	339.5	-52	NA	YES	NO		Dry
9/14/2022	BH-2	348.4	51	NA	YES	NO		Dry drum
10/12/2022	BH-2	363.4	-51	NA	YES	NO		Dry drum
11/10/2022	BH-2	271.7	-52	NA	YES	NO		Below port
12/14/2022	BH-2	217	-52	NA	YES	NO		Drum empty



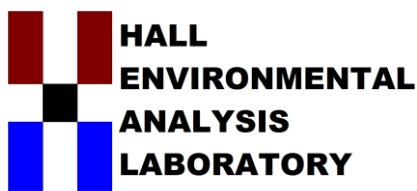
SIMCOE, LLC. - Mudge A 2**SVE-2 OVM Data**

Date	Exhaust OVM (ppm)
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6/6/2018	30.5
6/7/2018	29.2
6/8/2018	36.3
6/12/2018	322
7/5/2018	346
8/29/2018	217
9/24/2018	148.8
10/24/2018	430
11/16/2018	359
12/19/2018	390
1/11/2019	305
2/28/2019	127
3/18/2019	111
4/17/2019	103.3
5/3/2019	102.3
6/5/2019	164
6/20/2019	164
7/27/2019	179.3
8/14/2019	189
9/19/2019	198
10/17/2019	168
11/14/2019	145.0
12/20/2019	77.4
1/15/2020	57.3
2/26/2020	42.7
3/27/2020	35.2
4/20/2020	57.2
5/22/2020	57.9
6/25/2020	55.0
7/30/2020	71.0
8/25/2020	153.4
9/23/2020	86.1
10/23/2020	112.0
11/17/2020	71.5
12/22/2020	37.3
1/14/2021	35.2
2/5/2021	11.1
3/29/2021	5.3
4/14/2021	17.8
5/7/2021	18/.6
6/8/2021	16.1
7/9/2021	14.7
9/29/2021	24.9
10/11/2021	27.5

Date	Exhaust OVM (ppm)
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1/14/2021	35.2
2/5/2021	11.1
3/29/2021	5.3
4/14/2021	17.8
5/7/2021	18/.6
6/8/2021	16.1
7/9/2021	14.7
9/29/2021	24.9
10/11/2021	27.5
11/6/2021	18.6
12/13/2021	45.6
1/4/2022	23.2
2/8/2022	11.9
3/7/2022	10.3
4/7/2022	6.8
5/2/2022	12.2
6/8/2022	1660
7/5/2022	396.8
8/17/2022	339.5
9/14/2022	348.4
10/12/2022	363.4
11/10/2022	271.7
12/14/2022	217



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

June 30, 2022

Kyle Siesser
Cottonwood Consulting LLC
PO BOX 1653
Durango, CO 81302
TEL: (970) 764-7356
FAX:

RE: Mudge A 2

OrderNo.: 2206601

Dear Kyle Siesser:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/10/2022 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,

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 2206601

Date Reported: 6/30/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Mudge A 2

Collection Date: 6/9/2022 2:50:00 PM

Lab ID: 2206601-001

Matrix: AIR

Received Date: 6/10/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
Benzene	14	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Toluene	6.7	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Ethylbenzene	2.5	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Methyl tert-butyl ether (MTBE)	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2,4-Trimethylbenzene	0.45	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,3,5-Trimethylbenzene	0.82	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2-Dichloroethane (EDC)	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2-Dibromoethane (EDB)	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Naphthalene	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
1-Methylnaphthalene	ND	0.80		µg/L	2	6/14/2022 3:03:00 PM	R88708
2-Methylnaphthalene	ND	0.80		µg/L	2	6/14/2022 3:03:00 PM	R88708
Acetone	ND	2.0		µg/L	2	6/14/2022 3:03:00 PM	R88708
Bromobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Bromodichloromethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Bromoform	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Bromomethane	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
2-Butanone	ND	2.0		µg/L	2	6/14/2022 3:03:00 PM	R88708
Carbon disulfide	ND	2.0		µg/L	2	6/14/2022 3:03:00 PM	R88708
Carbon tetrachloride	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Chlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Chloroethane	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
Chloroform	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Chloromethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
2-Chlorotoluene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
4-Chlorotoluene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
cis-1,2-DCE	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
cis-1,3-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2-Dibromo-3-chloropropane	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
Dibromochloromethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Dibromomethane	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,3-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,4-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Dichlorodifluoromethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1-Dichloroethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1-Dichloroethene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,3-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
2,2-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:03:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Analytical Report

Lab Order 2206601

Date Reported: 6/30/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Mudge A 2

Collection Date: 6/9/2022 2:50:00 PM

Lab ID: 2206601-001

Matrix: AIR

Received Date: 6/10/2022 7:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
1,1-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Hexachlorobutadiene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
2-Hexanone	ND	2.0		µg/L	2	6/14/2022 3:03:00 PM	R88708
Isopropylbenzene	0.38	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
4-Isopropyltoluene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
4-Methyl-2-pentanone	ND	2.0		µg/L	2	6/14/2022 3:03:00 PM	R88708
Methylene chloride	ND	0.60		µg/L	2	6/14/2022 3:03:00 PM	R88708
n-Butylbenzene	ND	0.60		µg/L	2	6/14/2022 3:03:00 PM	R88708
n-Propylbenzene	0.22	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
sec-Butylbenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Styrene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
tert-Butylbenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1,1,2-Tetrachloroethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1,2,2-Tetrachloroethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Tetrachloroethene (PCE)	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
trans-1,2-DCE	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
trans-1,3-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2,3-Trichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2,4-Trichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1,1-Trichloroethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,1,2-Trichloroethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Trichloroethene (TCE)	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Trichlorofluoromethane	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
1,2,3-Trichloropropane	ND	0.40		µg/L	2	6/14/2022 3:03:00 PM	R88708
Vinyl chloride	ND	0.20		µg/L	2	6/14/2022 3:03:00 PM	R88708
Xylenes, Total	16	0.30		µg/L	2	6/14/2022 3:03:00 PM	R88708
Surr: Dibromofluoromethane	102	70-130		%Rec	2	6/14/2022 3:03:00 PM	R88708
Surr: 1,2-Dichloroethane-d4	86.3	70-130		%Rec	2	6/14/2022 3:03:00 PM	R88708
Surr: Toluene-d8	136	70-130	S	%Rec	2	6/14/2022 3:03:00 PM	R88708
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	2	6/14/2022 3:03:00 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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

ANALYTICAL SUMMARY REPORT

June 29, 2022

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

Work Order: G22060301

Project Name: 2206601

Energy Laboratories Inc. Gillette WY received the following 1 sample for Hall Environmental on 6/16/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G22060301-001	2206601-001A;SVE	06/09/22 14:50	06/16/22	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:



CLIENT: Hall Environmental
Project: 2206601
Work Order: G22060301

Report Date: 06/29/22

CASE NARRATIVE

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



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: 2206601
Client Sample ID: 2206601-001A;SVE
Location:
Lab ID: G22060301-001

Report Date: 06/29/22
Collection Date: 06/09/22 14:50
Date Received: 06/16/22
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
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GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	21.33	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Nitrogen	77.80	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Carbon Dioxide	0.77	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Hydrogen Sulfide	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Methane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Ethane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Propane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Isobutane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
n-Butane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Isopentane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
n-Pentane	<0.01	Mol %		GPA 2261-	06/20/22 12:27 / eli-b
Hexanes plus	0.10	Mol %		GPA 2261-	06/20/22 12:27 / eli-b

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

Propane	< 0.001	gpm		GPA 2261-	06/20/22 12:27 / eli-b
Isobutane	< 0.001	gpm		GPA 2261-	06/20/22 12:27 / eli-b
n-Butane	< 0.001	gpm		GPA 2261-	06/20/22 12:27 / eli-b
Isopentane	< 0.001	gpm		GPA 2261-	06/20/22 12:27 / eli-b
n-Pentane	< 0.001	gpm		GPA 2261-	06/20/22 12:27 / eli-b
Hexanes plus	0.042	gpm		GPA 2261-	06/20/22 12:27 / eli-b
GPM Total	0.042	gpm		GPA 2261-	06/20/22 12:27 / eli-b
GPM Pentanes plus	0.042	gpm		GPA 2261-	06/20/22 12:27 / eli-b

CALCULATED PROPERTIES

Gross BTU per cu ft @ Std Cond. (HHV)	5		GPA 2261-	06/20/22 12:27 / eli-b
Net BTU per cu ft @ std cond. (LHV)	4		GPA 2261-	06/20/22 12:27 / eli-b
Pseudo-critical Pressure, psia	548		GPA 2261-	06/20/22 12:27 / eli-b
Pseudo-critical Temperature, deg R	242		GPA 2261-	06/20/22 12:27 / eli-b

PHYSICAL PROPERTIES-CALCULATED

Specific Gravity @ 60/60F	1.00		D3588-81	06/20/22 12:27 / eli-b
---------------------------	------	--	----------	------------------------

COMMENTS

-	-	06/20/22 12:27 / 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 RL - Analyte Reporting Limit

Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



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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: G22060301

Report Date: 06/22/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95							Batch: R383462		
Lab ID: LCS062022	Laboratory Control Sample				Run: GCNGA-B_220620A			06/20/22 15:28	
Oxygen	0.60	Mol %	0.01	120	70	130			
Nitrogen	5.97	Mol %	0.01	99	70	130			
Carbon Dioxide	1.01	Mol %	0.01	102	70	130			
Methane	74.5	Mol %	0.01	100	70	130			
Ethane	6.07	Mol %	0.01	101	70	130			
Propane	5.08	Mol %	0.01	103	70	130			
Isobutane	2.01	Mol %	0.01	100	70	130			
n-Butane	2.00	Mol %	0.01	100	70	130			
Isopentane	1.01	Mol %	0.01	101	70	130			
n-Pentane	1.00	Mol %	0.01	100	70	130			
Hexanes plus	0.77	Mol %	0.01	96	70	130			
Lab ID: G22060301-001ADUP							Sample Duplicate		
					Run: GCNGA-B_220620A			06/20/22 12:55	
Oxygen	21.3	Mol %	0.01				0	20	
Nitrogen	77.7	Mol %	0.01				0.1	20	
Carbon Dioxide	0.77	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	0.17	Mol %	0.01				52	20	R

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

Work Order Receipt Checklist

Hall Environmental

G22060301

Login completed by: Chantel S. Johnson

Date Received: 6/16/2022

Reviewed by: Alyson T. Degnan

Received by: csj

Reviewed Date: 6/21/2022

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 type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Container/Temp Blank temperature:	°C		
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

1 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-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	ANALYTICAL COMMENTS							
1	2206601-001A	SVE	TEDLAR	Air	6/9/2022 2:50:00 PM	1 Natural Gases O2, CO2							

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:	6/10/2022	Time:	9:55 AM	Received By:	Date:	6/10/2022	Time:		REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE			
Relinquished By:	Date:		Time:		Received By:	Date:	6/10/2022	Time:		FOR LAB USE ONLY			
Relinquished By:	Date:		Time:		Received By:	Date:	6/10/2022	Time:		Temp of samples: <input type="checkbox"/> C <input type="checkbox"/> F Attempt to Cool? <input type="checkbox"/>			
TAT:		Standard <input type="checkbox"/>		RUSH <input type="checkbox"/>		Next BD <input type="checkbox"/>		2nd BD <input type="checkbox"/>		3rd BD <input type="checkbox"/>		Comments: 1722008301	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2206601

30-Jun-22

Client: Cottonwood Consulting LLC

Project: Mudge A 2

Sample ID: 2206601-001adup	SampType: DUP	TestCode: EPA Method 8260B: Volatiles								
Client ID: SVE	Batch ID: R88708	RunNo: 88708								
Prep Date:	Analysis Date: 6/14/2022	SeqNo: 3150092	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	14	0.20						0.807	20	
Toluene	6.6	0.20						1.38	20	
Ethylbenzene	2.5	0.20						0.598	20	
Methyl tert-butyl ether (MTBE)	ND	0.20						0	20	
1,2,4-Trimethylbenzene	0.45	0.20						0.800	20	
1,3,5-Trimethylbenzene	0.83	0.20						1.02	20	
1,2-Dichloroethane (EDC)	ND	0.20						0	20	
1,2-Dibromoethane (EDB)	ND	0.20						0	20	
Naphthalene	ND	0.40						0	20	
1-Methylnaphthalene	ND	0.80						0	20	
2-Methylnaphthalene	ND	0.80						0	20	
Acetone	ND	2.0						0	20	
Bromobenzene	ND	0.20						0	20	
Bromodichloromethane	ND	0.20						0	20	
Bromoform	ND	0.20						0	20	
Bromomethane	ND	0.40						0	20	
2-Butanone	ND	2.0						0	20	
Carbon disulfide	ND	2.0						0	20	
Carbon tetrachloride	ND	0.20						0	20	
Chlorobenzene	ND	0.20						0	20	
Chloroethane	ND	0.40						0	20	
Chloroform	ND	0.20						0	20	
Chloromethane	ND	0.20						0	20	
2-Chlorotoluene	ND	0.20						0	20	
4-Chlorotoluene	ND	0.20						0	20	
cis-1,2-DCE	ND	0.20						0	20	
cis-1,3-Dichloropropene	ND	0.20						0	20	
1,2-Dibromo-3-chloropropane	ND	0.40						0	20	
Dibromochloromethane	ND	0.20						0	20	
Dibromomethane	ND	0.40						0	20	
1,2-Dichlorobenzene	ND	0.20						0	20	
1,3-Dichlorobenzene	ND	0.20						0	20	
1,4-Dichlorobenzene	ND	0.20						0	20	
Dichlorodifluoromethane	ND	0.20						0	20	
1,1-Dichloroethane	ND	0.20						0	20	
1,1-Dichloroethene	ND	0.20						0	20	
1,2-Dichloropropane	ND	0.20						0	20	
1,3-Dichloropropane	ND	0.20						0	20	
2,2-Dichloropropane	ND	0.20						0	20	

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

Page 3 of 4

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

WO#: 2206601

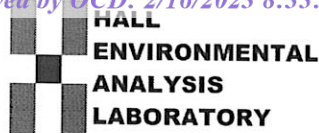
30-Jun-22

Client: Cottonwood Consulting LLC**Project:** Mudge A 2

Sample ID: 2206601-001adup	SampType: DUP	TestCode: EPA Method 8260B: Volatiles								
Client ID: SVE	Batch ID: R88708	RunNo: 88708								
Prep Date:	Analysis Date: 6/14/2022	SeqNo: 3150092	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.20						0	20	
Hexachlorobutadiene	ND	0.20						0	20	
2-Hexanone	ND	2.0						0	20	
Isopropylbenzene	0.38	0.20						0.425	20	
4-Isopropyltoluene	ND	0.20						0	20	
4-Methyl-2-pentanone	ND	2.0						0	20	
Methylene chloride	ND	0.60						0	20	
n-Butylbenzene	ND	0.60						0	20	
n-Propylbenzene	0.22	0.20						0.360	20	
sec-Butylbenzene	ND	0.20						0	20	
Styrene	ND	0.20						0	20	
tert-Butylbenzene	ND	0.20						0	20	
1,1,1,2-Tetrachloroethane	ND	0.20						0	20	
1,1,2,2-Tetrachloroethane	ND	0.20						0	20	
Tetrachloroethene (PCE)	ND	0.20						0	20	
trans-1,2-DCE	ND	0.20						0	20	
trans-1,3-Dichloropropene	ND	0.20						0	20	
1,2,3-Trichlorobenzene	ND	0.20						0	20	
1,2,4-Trichlorobenzene	ND	0.20						0	20	
1,1,1-Trichloroethane	ND	0.20						0	20	
1,1,2-Trichloroethane	ND	0.20						0	20	
Trichloroethene (TCE)	ND	0.20						0	20	
Trichlorofluoromethane	ND	0.20						0	20	
1,2,3-Trichloropropane	ND	0.40						0	20	
Vinyl chloride	ND	0.20						0	20	
Xylenes, Total	16	0.30						0.229	20	
Surr: Dibromofluoromethane	2.1		2.000		104	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	1.7		2.000		85.6	70	130	0	0	
Surr: Toluene-d8	2.6		2.000		132	70	130	0	0	S
Surr: 4-Bromofluorobenzene	2.1		2.000		103	70	130	0	0	

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



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: Cottonwood Consulting LLC

Work Order Number: 2206601

RcptNo: 1

Received By: Cheyenne Cason 6/10/2022 7:05:00 AM

Completed By: Tracy Casarrubias 6/10/2022 9:34:41 AM

Reviewed By: *KPG* *6.10.22*

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 $>0^{\circ}\text{C}$ 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: *CMC 6/10/22*

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			



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 186986

CONDITIONS

Operator: SIMCOE LLC 1199 Main Ave., Suite 101 Durango, CO 81301	OGRID:
	329736
	Action Number:
	186986
Action Type:	
[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)	

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Receipt of the Mudge A 002 SVE Annual Report for 2022: Content Satisfactory. Continue operation and submit the 2023 Annual Report by April 1, 2024.	10/3/2023