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 30, 2022

RECEIVED
By Mike Buchanan at 2:38 pm, Jan 19, 2024

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

Mudge A 2 analytical data for SVE system recieved for the record, dated for June 30, 2022.

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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2206601**
Date Reported: **6/30/2022**

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

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

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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:

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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

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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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
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 Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

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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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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 ☑	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 1 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	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:	Time:
Relinquished By:	Date:	Time:	Received By: Chantel Johnson	Date: 6/10/2022	Time: 1300
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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

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

FOR LAB USE ONLY
Temp of samples ____ °C Attempt to Cool ? ____
Comments: 2206601

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.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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

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: 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° 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	N/A	Good	Yes			

Chain-of-Custody Record

Client: Cottonwood Consulting LLC

Mailing Address: PO Box 1653
Durango, CO 81302

Phone #: 970-764-7356

email or Fax#: ksiesser@cottonwoodconsulting.com

QA/QC Package:
■ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
■ Standard ☐ Rush_____

Project Name: Mudge A #2

Project #:

Project Manager: Kyle Siesser

Sampler: Emma Millar
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): NA

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 22061601
6/9/22	1450	AIR	SVE	tedlar bag - 1	NA	001

Analysis Request

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	8260B (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	CO2	O2
							■			■	■

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/9/22	1546					
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/9/22	1804		CMC courier		6/10/22	0705

Remarks:
please cc emillar@cottonwoodconsulting.com

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.

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 134651

CONDITIONS

Operator: SIMCOE LLC 1199 Main Ave., Suite 101 Durango, CO 81301	OGRID: 329736
	Action Number: 134651
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Mudge A 2 analytical data for SVE system recieved for the record, dated for June 30, 2022.	1/19/2024